TEXTILE WORLD

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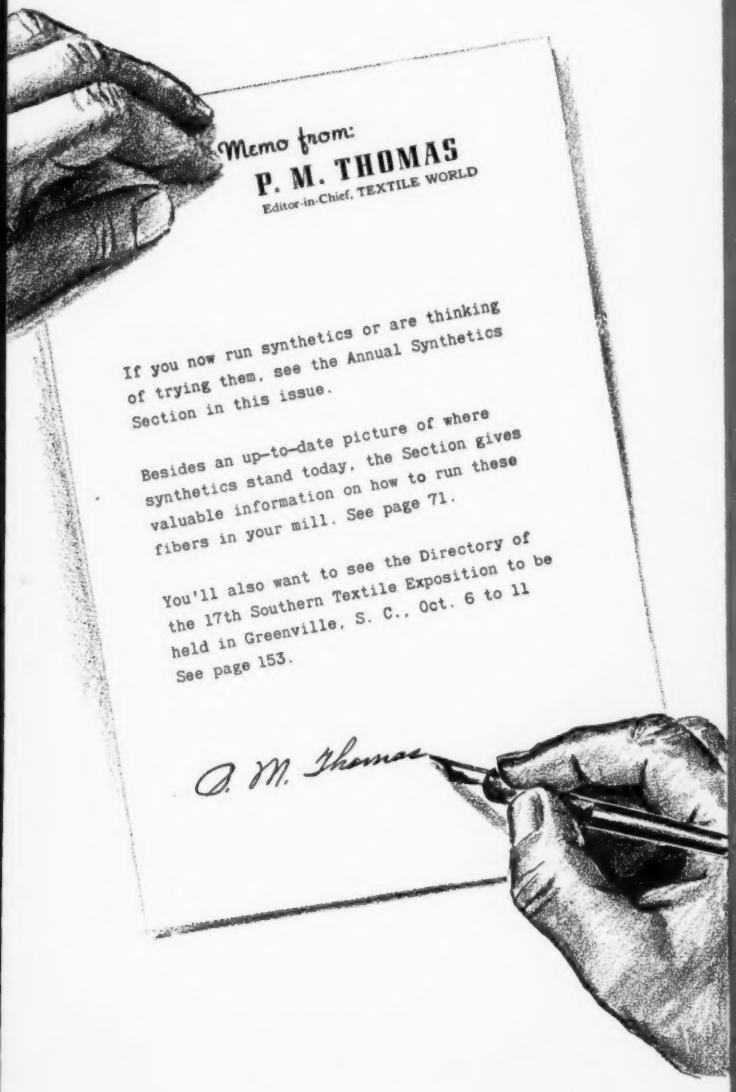
Memo from:
P. M. THOMAS
Editor-in-Chief, TEXTILE WORLD
If you now run synthetics or are thinking of trying them, see the Annual Synthetics Section in this issue.
Besides an up-to-date picture of where synthetics stand today, the Section gives valuable information on how to run these fibers in your mill. See page 71.
You'll also want to see the Directory of the 17th Southern Textile Exposition to be held in Greenville, S. C., Oct. 6 to 11
See page 153.
P. M. Thomas

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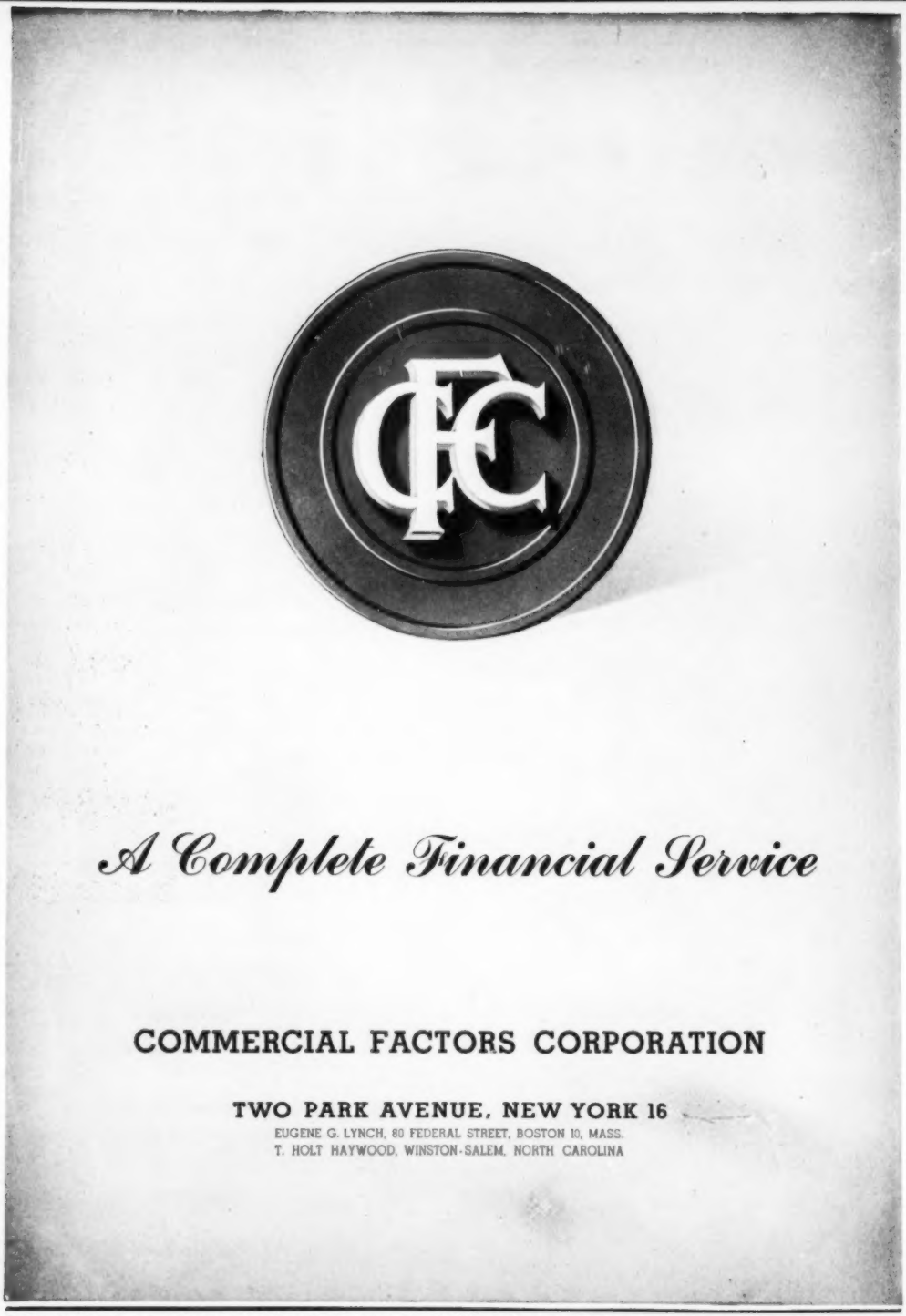
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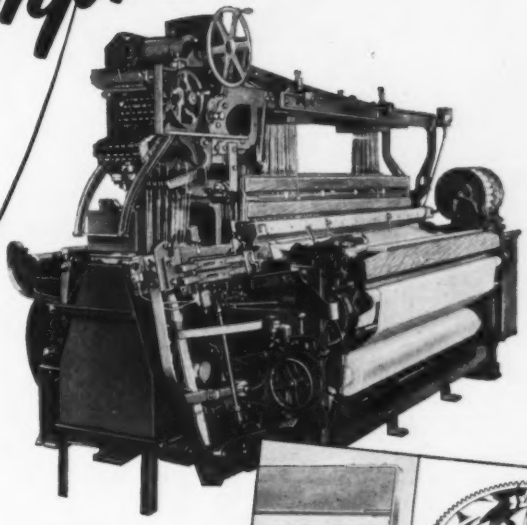

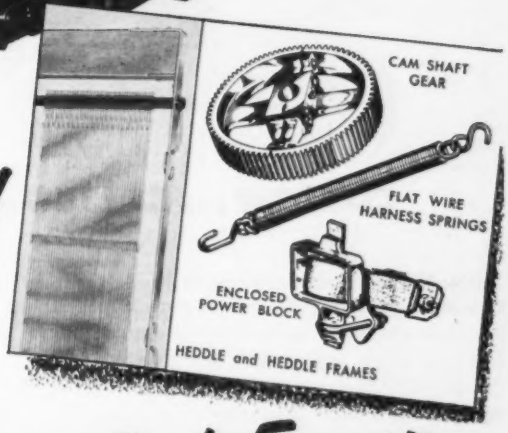

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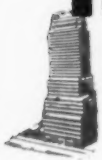

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THE *Long-Range* VIEW

There Must Be No Revenge

A few more months and we are rid of Truman. To a large extent, we are rid also of the Roosevelt hangover.

Anyone who followed the recent Democratic National Convention, particularly on television, got a vivid picture of the extreme liberals trying to grab power—young Roosevelt of New York, wild Orville Freeman of Minnesota, green-polka-dot-bow-tie "Soapy" Williams of Michigan, and a few others. And on the other side were the staunch Southerners who withstood the attack until the old heads of the party—Sam Rayburn, Jim Farley, and others—could slap the young 'uns down to size.

In the Republican convention—less dramatic, less colorful, and perhaps with a tinge of opportunism about it—there was the spectacle of Mr. Old Guard Republican going down under the broad grin and warm personality of the more liberal Eisenhower.

It was evident in the maneuvers at the two conventions and in the choice of candidates by both parties that a new day is dawning in national politics. New personalities in high places, new outlooks, and new approaches to old problems are inevitable. The impact will assuredly be felt by business and labor.

One trend almost certain to develop is that labor unions will not be coddled so notoriously and obnoxiously as they have been. Of course unions prefer Eisenhower to Taft, and they left Averell Harriman to jump (a little late, no doubt) onto Stevenson's band wagon in the Democratic convention. But the fact that a man from the Deep South, Sen. Sparkman, was placed on the ticket with Stevenson must have been a bitter pill to the unions.

Mill men, in common with all other business men, can look at both tickets with a great deal of satisfaction. It is to be hoped, though, that none will look at them with a secret hope for some measure of revenge.

Admittedly, mills have danced a jig the last twenty years, with the Federal government and labor unions playing the tune. Mill owners, top and middle executives, and supervisors at all levels have found their activity and decisions circumscribed by law. Many have deplored the situation, and many have raised loud voices for a return to the historic American way of business.

The truth is that there will never be a return to the old way. The experiments of the last twenty years in so-called "social" legislation cannot be wiped out by repeal as Prohibition was. Whether or not mills and business in general like the methods by which it was accomplished, the fact is that the lot of the individual is vastly better now than it ever has been. And there is nothing in the political picture to indicate that there will be any sort of return to roughshod treatment of workers.

There has been ample proof in the last two decades that to depend on exploiting workers to keep a mill in a competitive position is a short-sighted, vicious way to do business. The prospect of a saner administration coming into office next year is no sound reason for supposing that the powerful economic pressure to keep a mill modern and efficient and labor satisfied is going to ease up.

It looks as though no matter which political party wins in November there will be no significant decrease in taxes any time soon, no retreat from social benefits now in operation, no important reduction in the level of national business activity, and no real build-up of unemployment. It is therefore unthinkable that mills will get away from the threat of unions or be able to slash wages to compensate for any lack of improvement they make in machines, work methods, and labor relations.

If the administration, whether it is Democratic or Republican, does make life a little easier for business during the next four years, mills and business in general should not forget the picture of the young Roosevelt-Orville Freeman cohorts at the convention. They'll be back four years from now.

Whether they are again batted down by older, more conservative men or sweep into power depends largely on how business conducts itself in these "saner" four years. As Stevenson said in his acceptance speech, when the excitement dies down we are faced with the "stark reality of responsibility." If business men, mill men, fail to discharge their responsibility for fair play, consideration for workers, and steady progress, the wild ones, with the labor vote in their pockets, assuredly will revive the days of Roosevelt and Truman.

J. M. Thomas

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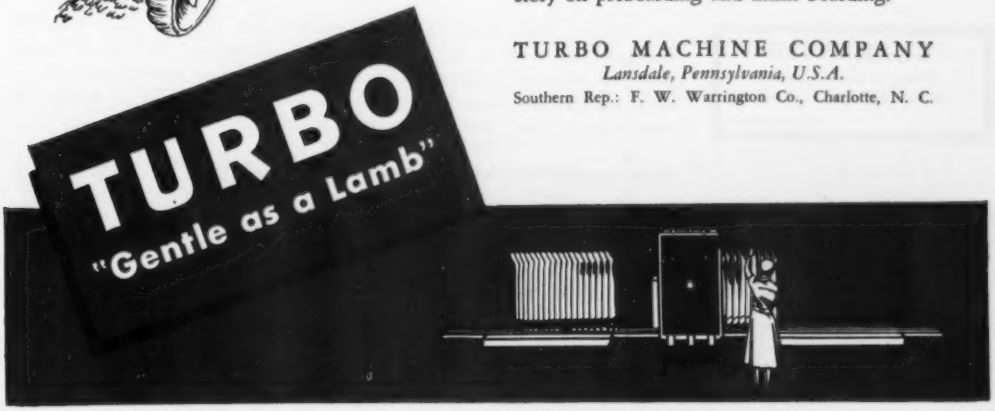

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New 1952 Handy Soap Buying Guide. Tells you the right soap for every purpose. Get a copy from your C.P.P. representative, or write now to our Industrial Department.

COLGATE-PALMOLIVE-PEET COMPANY

Jersey City 2, N. J. • Atlanta 5, Ga. • Chicago 11, Ill.
Kansas City 5, Kans. • Berkeley 10, Calif.

Men in the Know...

buy Schlafhorst Machinery for Winding and Warping

The illustration shows 24 Automatic Quillers of our "AUTOCOPSER SE1" pattern, of 12 spindles each.

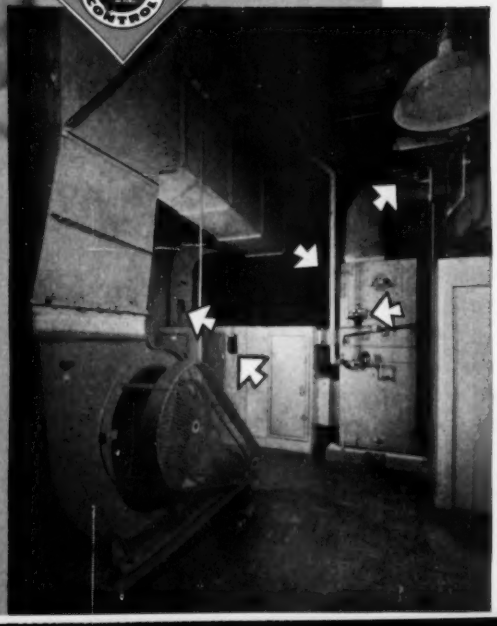
Write for information to the Sole Makers:

W. SCHLAFHORST & CO.

M. GLADBACH GERMANY

POWERS for Heating and

PNEUMATIC CONTROL SYSTEMS

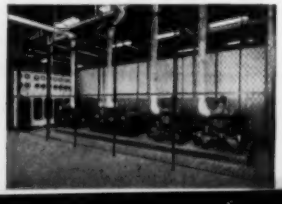


POWERS Design for MODERN CONTROL PANEL

In the unique functional design of this Control Panel are integrated various types of POWERS pneumatic controlling, indicating and recording instruments. It masterminds the operation of four complete year round air conditioning systems in the modern plant shown on the next page.

Photos at left and top and bottom of next page show air conditioning systems regulated by the Control Panel. Arrows indicate Powers controls.

Photo below, left—shows four refrigerator compressors, one for each air conditioning system; photo right—Powers air compressor and pilot valves supplying air pressure for control system.



Air Conditioning

Increase Production
Improve Products–Lower Costs

Room Thermostat for Offices

POWERS TEMPERATURE and HUMIDITY CONTROL SYSTEMS

prevent OVER-heated air in process rooms, laboratories, offices and other spaces. Comfortable, healthful room temperature — not only increases output of workers, but—

★ Cuts Heating Costs up to 25%—Keeping each room at its proper temperature prevents waste of fuel from OVER-heating. With todays much higher fuel costs, bigger savings than ever before are now possible with Powers control.

Constant Temperature and Humidity conditions in each room can be maintained at any predetermined point with Powers control. It can be installed in existing as well as new buildings.

25 to 40 Years of Dependable Service with very low maintenance cost is reported by hundreds of users. Powers control is notable for its continuous accurate performance.

Precision Control for Processes—Wherever product uniformity and quality are dependent upon precise temperature and humidity regulation, use Powers controlling, indicating or recording instruments.

New modern plant commemorating 60th anniversary of The Powers Regulator Co., pioneer in pneumatic operated controls for heating, air conditioning systems and industrial processes.

Phone or write our nearest office for help in selecting the type of automatic control that will give best results for your requirements. There's no obligation.

THE POWERS REGULATOR CO.

Established 1891 • SKOKIE, ILLINOIS • Offices in Over 50 Cities

CHICAGO 13, ILL., 3819 N. Ashland Ave. • NEW YORK 17, N. Y., 231 E. 46 St.
LOS ANGELES 5, CAL., 1808 W. 8th St. • BOSTON 15, MASS., 125 St. Botolph St.
DETROIT 1, MICH., 2631 Woodward Ave. • TORONTO, ONT., 195 Spadina Ave.
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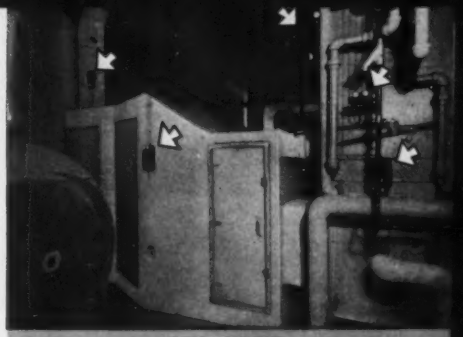
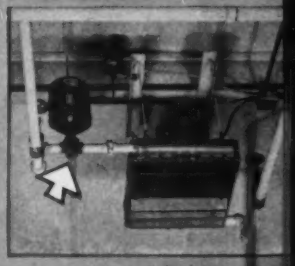
(AB36)

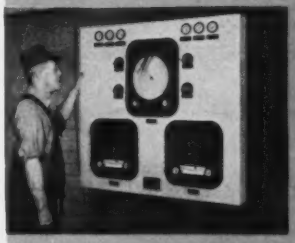


POWERS

Above: Arrows indicate some of the many controls applied to air conditioning system: Powers Duct Hygrostat, Duct Thermostat, Pneumatic Switch, Diaphragm Valves and Damper Motors Static Pressure Regulators, etc.

Photo at right shows ceiling type unit heater used in factory. It is controlled by wall type thermostat which also regulates Vulcan fin type radiation below windows.





Left: Instrument panel for Powers MASTROL System of forced hot water temperature control for heating.

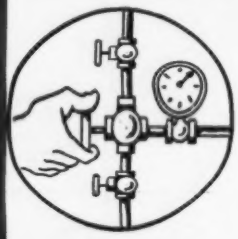
Below: Factory fresh air ventilating units heat and filter outdoor air, providing two air changes per hour in winter and [illegible] in summer.

POWERS

Rieter Winterthur
Established 1795

COTTON AND SYNTHETIC SPINNING FRAME WITH

PNEUMATIC TOP ROLL PRESSURE



JUST TURN
THE WHEELS!

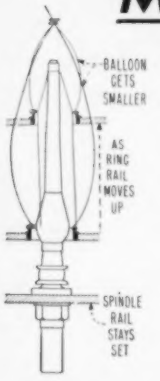
ALTER AIR PRESSURE

to Alter Top Roll Pressure for Best Spinning Conditions

RELEASE AIR PRESSURE

to Release Top Roll Pressure to Save Cots Over Longer Stops

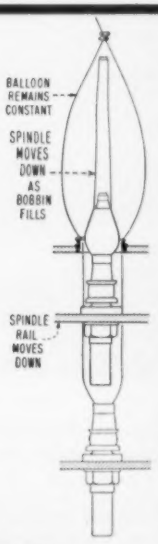
MOVING SPINDLE RAIL



OLD WAY

You get a
Constant Balloon
and
Even Yarn Tension
because
in the **RIETER** *WAY*
The Spindle Rail Moves
and the
Balloon Stays the Same

RIETER WAY



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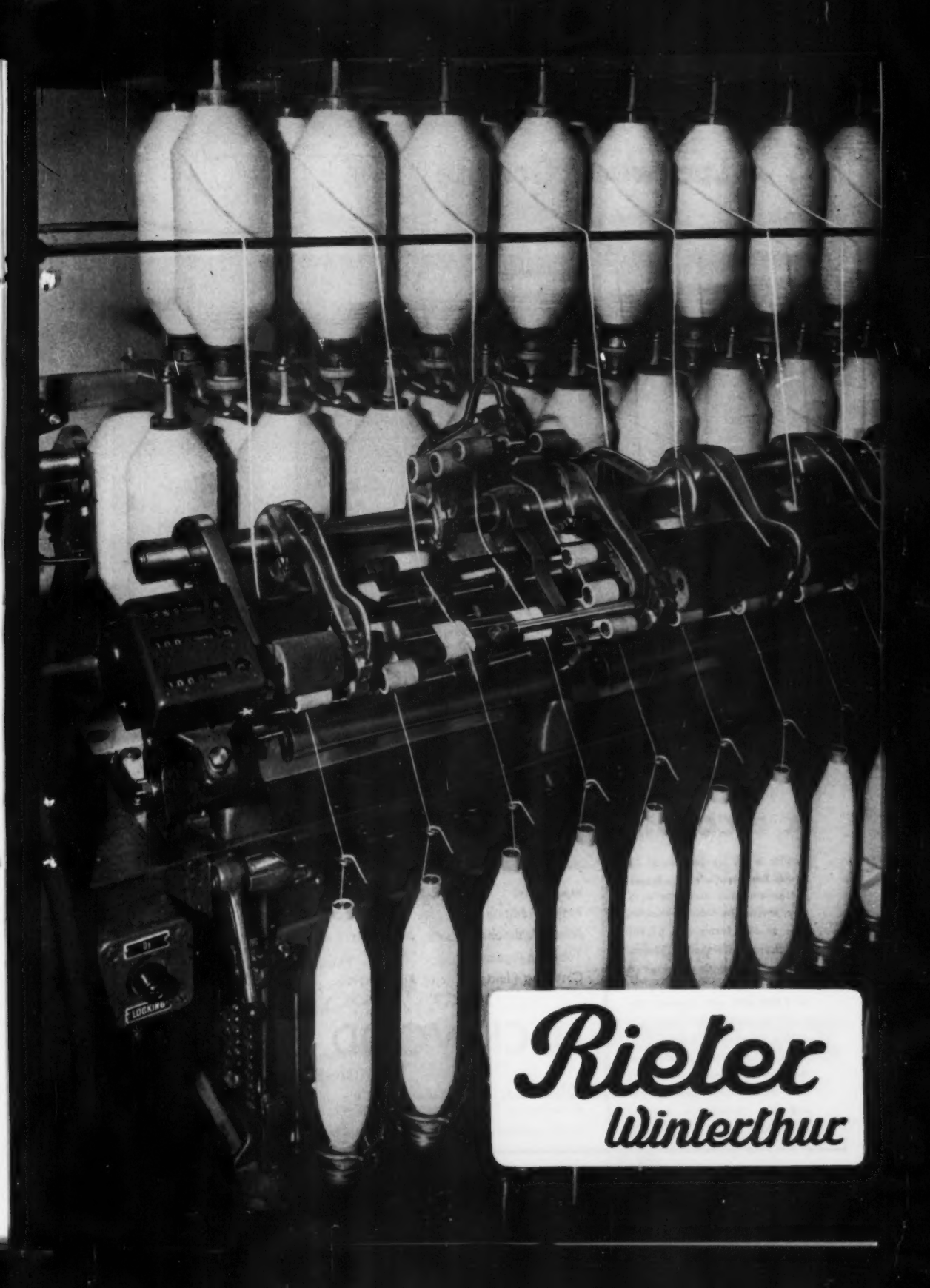
Joh. Jacob Rieter & Co., Ltd., Winterthur (Switzerland)


Rieter
Winterthur

A Lockwood Greene Project

PACIFIC MILLS, LYMAN, S. C.

A RECORD OF SERVICE IN TEXTILE FINISHING

Pacific Mills at Lyman, S. C., shown here, is one of the largest cotton finishing plants in U. S. The project includes a sheeting mill of 691 looms and 31,380 spindles; also storehouses, bleachery, cotton printing, cotton & rayon dyeing and finishing plant of 5,000,000 yds. capacity per week, a power plant and mill village. Lockwood Greene Engineers handled the removal of the Owners' spinning machinery from its Lawrence, Mass., plant and the installation in the new mill.

as measured by:

New Plants	71
Major Additions	100
Minor Additions, Reports, Appraisals	347
Total Engagements	518
Cost New Plants & Major Additions	$32,000,000

LOCKWOOD GREENE

ENGINEERS—ARCHITECTS

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SPARTANBURG, S. C. MONTGOMERY BLDG.

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Green

—growing colour"

Sandoz has the dye you need

FOR WOOL PIECE DYEING

with the best possible fastness to light, water-spotting and perspiration:

- Alizarine Light Blue 4GL
- Xylene Fast Rubine 3GP
- Xylene Fast Yellow 2GP

FOR BRIGHTER GREENS

Sandoz recommends as a base component the brightest, fastest piece dye blue of all:

- Brilliant Alizarine Light Blue 3F Pat.
- *along with*
- Xylene Light Yellow 2G or 2GP

FOR WORSTED TOP OR RAW STOCK

to produce many of the popular shades, *without any shading colors*—for men's and women's wear "fancies":

Metomega Chrome Fast Green G

FOR SPUN RAYON

- Cuprofix Blue FGL
- Pyrazol Fast Orange 4G
- Pyrazol Fast Yellow RSW

On fabrics to be anticreased, these colors provide maximum fastness to light, perspiration and washing when treated by the combined Cuprofix/Resin method.

For forecast colors as well as perennial favorites for both natural and synthetic fibers, select from the Sandoz line of chrome, acid, acetate, direct dyes, and auxiliary chemicals: detergents, dyeing assistants, finishes.

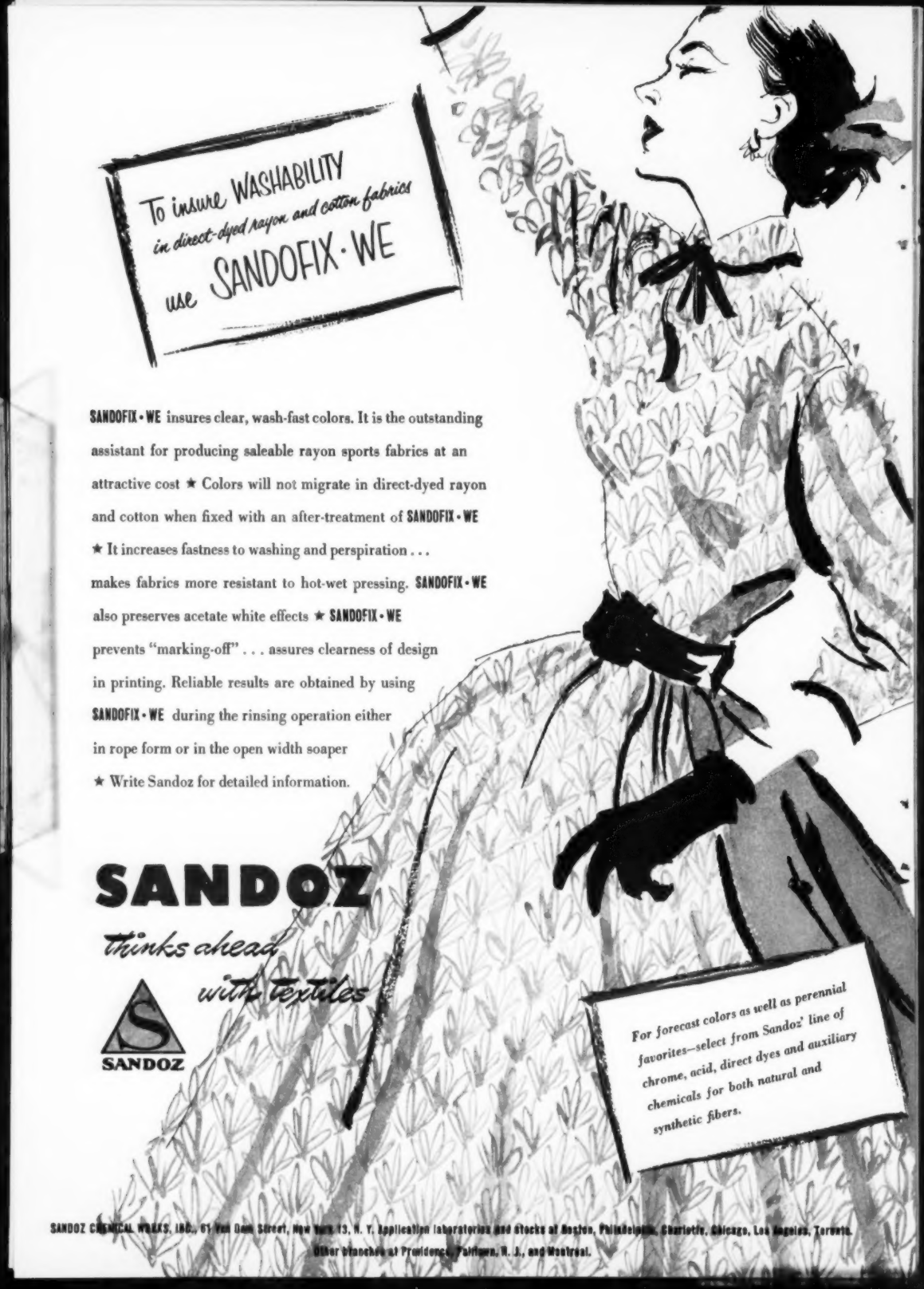
You can depend on Sandoz to provide the best colors to meet your specified requirements.

SANDOZ

thinks ahead with textiles

SANDOZ

SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y. Sales Offices: Boston, Providence, Fairlawn, N. J., Philadelphia, Charlotte, Chicago, Los Angeles, Montreal, Toronto.



SANDOFIX · WE insures clear, wash-fast colors. It is the outstanding assistant for producing saleable rayon sports fabrics at an attractive cost ★ Colors will not migrate in direct-dyed rayon and cotton when fixed with an after-treatment of **SANDOFIX · WE** ★ It increases fastness to washing and perspiration . . . makes fabrics more resistant to hot-wet pressing. **SANDOFIX · WE** also preserves acetate white effects ★ **SANDOFIX · WE** prevents "marking-off" . . . assures clearness of design in printing. Reliable results are obtained by using **SANDOFIX · WE** during the rinsing operation either in rope form or in the open width soaper ★ Write Sandoz for detailed information.

SANDOZ

thinks ahead with Textiles

SANDOZ

For forecast colors as well as perennial favorites—select from Sandoz' line of chrome, acid, direct dyes and auxiliary chemicals for both natural and synthetic fibers.

SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y. Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto. Other branches at Providence, Fairlawn, N. J., and Montreal.

Since 1883

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heavy-duty MAINTENANCE PAINTS

Do you have a really tough maintenance paint job? To thousands of maintenance men and plant managers just such a problem paint job was their first introduction to the remarkable durability of Tropical paints . . . which are formulated strictly for heavy-duty maintenance service. There is a complete line of fresh-mixed Tropical paints, each designed to give superior performance. Whether the application must resist acid fumes, alkalis, rust or heat—on metal, masonry, wood or concrete—on floors, walls, ceilings, roofs, machines or equipment, the right Tropical paint has proved it can do the job better! To select the right paint for the job, in the right quantity, and for correct method of application, use the expert service of the Tropical maintenance paint specialist in your community. Write us today!

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. . . or dye sticks, poles, trucks, bins, bobbins, drying reels, calenders, tenter frames, dye kettle interiors, acid vaporizing tanks, inspection tables, skein extractors, shrinking tables, twister rolls, oven trays and loom harness. Wherever chemicals, rust and moisture quickly destroy ordinary maintenance paints, Tropical stands up and gives extra services. And for smooth, snag-proof, lint-free surfaces, Tropical has the answer!

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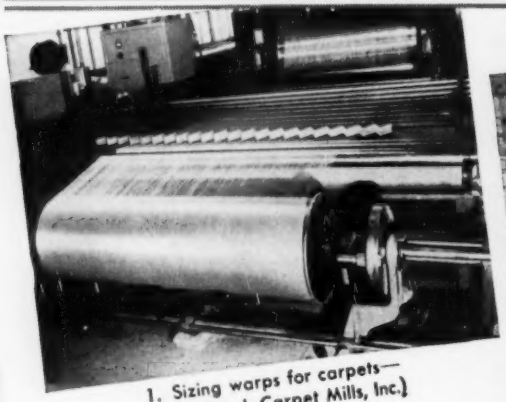

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Johnson WARP SIZERS

Variety in applications with uniformity in sizing and processing efficiency.

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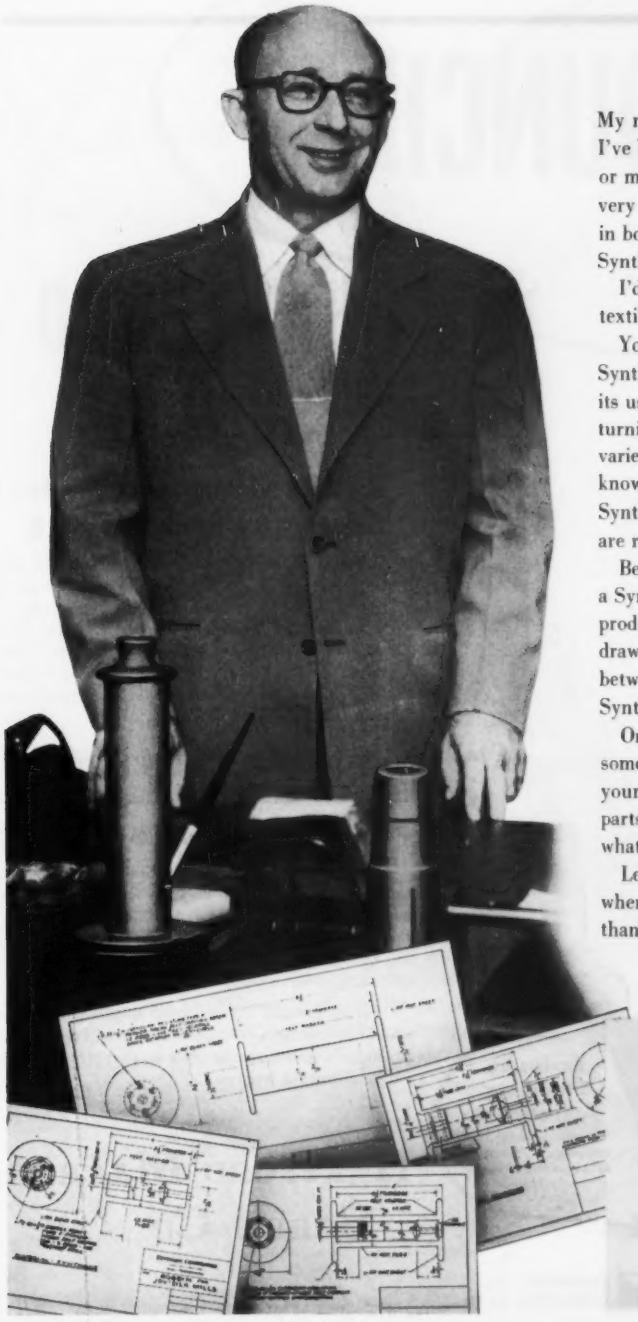
(Robbins Mills, Red Springs Plant)

Charles B. Johnson PATERSON, NEW JERSEY

Help wanted? Maybe I'm your man



My name is Fred Nave.
I've been in the textile business for 25 years or more—mostly as a mill man. I have a very good idea what mill men want in bobbins. That's why I represent Synthane laminated plastics today.

I'd like to talk about Synthane from a textile design standpoint.

You are probably already familiar with Synthane as a material . . . and about its use in bobbins, pirns, package tubes, turning and examining forms and 57 other varieties of applications. But you may not know about the design assistance that Synthane representatives like me are ready to give textile men.

Below you'll see a few drawings. Each is a Synthane part that helped some textile producer solve a problem. Each of these drawings is the result of a consultation between that textile producer and a Synthane representative.

One of us would like to drop in on you sometime soon. We'd like to talk about your machines and processes . . . about your parts problems. We'd like to give you whatever design help you may need.

Let our people at Oaks know when you're ready to talk to us . . . and thanks for listening to me.

Textile Division

SYNTHANE

SYNTHANE CORPORATION

Oaks, Pennsylvania

 For more information, write direct or use Reader Service post card.

ANNOUNCING!

HARTFORD
BALL-BEARING
SPINDLE

SLASHES MAINTENANCE AND LABOR COSTS

There's less work for the maintenance crew with Hartford Spindles. Pre-packed, grease-retaining bearings . . . needing no attention for an estimated five years . . . eliminate the oiler's job — keep your yarn and floors cleaner. You'll have no worries over dry spindles. Using Hartford Spindles you operate at your maximum r.p.m., with no friction-heat, saving motive power, and with assurance of more even twist.

NO OILING!

PRE-PACKED . . . BEARINGS

Also, shutdown time is drastically reduced — because you don't need to stop the frame to check and adjust for plumb. An exclusive adjustment feature — the knurled plug at the all-steel base — controls plumbing through double-eccentric aligning sleeves. No bolster or blade to wear.

See for yourself this improved spindle (time-tested on 90,000 installations by machine manufacturers) simply by writing our nearest office to show you a sample. Just address your letter to . . .

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HOW TO SIMPLIFY YOUR STORAGE

Now — one multi-purpose Grease will handle virtually all your Grease Requirements!

Reduced inventory . . . less chance for error in application . . . savings in maintenance. These are but three of the big benefits you get with Gargoyle Grease BRB No. 1.

This single, multi-purpose grease will provide correct lubrication for practically all normally loaded anti-friction and plain bearings in the average industrial plant. It resists leakage and "wash out," protects against rust and corrosion, lasts many times longer in anti-friction bearings than conventional greases.

Why use more than the one grease when one will do? Call your Socony-Vacuum representative.

Send for informative pamphlet about Gargoyle Grease BRB No. 1. Write to Socony-Vacuum Oil Company, Inc., 26 Broadway, New York 4, N. Y.

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Correct Lubrication

WORLD'S GREATEST LUBRICATION KNOWLEDGE AND ENGINEERING SERVICE

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NOPCO® anti-static oils give 'BALANCED' PERFORMANCE

Twenty years' experience supplying anti-static products for processing natural and synthetic fibers has convinced us that today's needs can be fully met only by oils that deliver "balanced" performance.

Your present anti-static oil is doing only half its job if it does not give the proper coefficient of friction, fiber to fiber cohesion, anti-static control. Every NOPCOSTAT* anti-static oil gives you all these properties and in addition affords outstanding spreadability, freedom from yellowing and rancidity, and scours out completely.

Give NOPCOSTATS a trial to get "balanced" performance. Twenty years of Nopco research, you'll find, provides the right answer.

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CHEMICAL COMPANY Harrison, N. J.

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Reduce Down Time and Maintenance With Westsorb

VIBRATION-ABSORBING MACHINE MOUNTS— TIE DOWN MACHINERY WITHOUT BOLTS

Westsorb felt mounts with adhesive already applied on both sides are proving superior for every vibration cure. They are being employed under both new and old equipment —on old floors and new. Machine speed may be increased, there is less down-time. Floors and equipment last longer and noise is minimized.

Westsorb mountings don't break down under heaviest loads and impacts. They resist oil, acid, grease, water, age — do not ravel or fray. They are simple to install—no holes or bolts. Western Felt engineers and dealers located throughout the textile areas are anxious to cooperate.

WESTSORB
Vibration-absorbing Machine Mounts

Increase Production
Decrease Floor Wear
Save on Machine Repair
Reduce Plant Noise
Thickness for Every Need
Engineered for Each Job
Investment is Small
Easily and Quickly installed

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FOR 16 PAGE BOOKLET

contains data on tests of Westsorb vibration-absorbing efficiency under looms and knitting machines.

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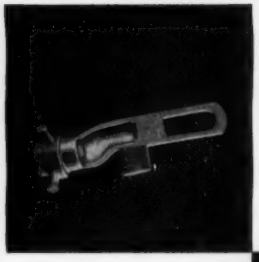
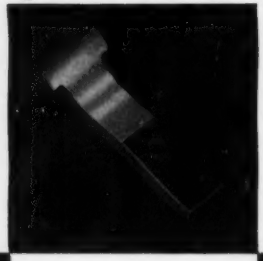
MANUFACTURERS AND CUTTERS OF WOOL FELTS

How's YOUR supply of Loom Parts?



BTM PARALLEL for E-model looms made of finest quality cast iron. Machine finished for better service and longer wear.

BTM PART No. 3349

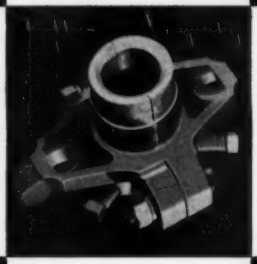


BTM PARALLEL TONGUE, hardened and ground for smooth, trouble-free action and longer wear.

BTM PART No. 63695

BTM PICK CAM HUB. Malleable iron bored with shims for clamp fit. Split to allow easy installation.

BTM PART No. 59591-2

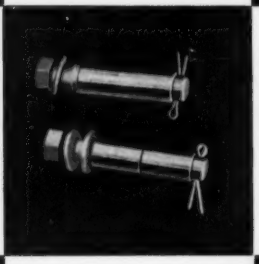


BTM PARALLEL SHOES. These shoes have lips that provide true alignment and parallel.

BTM PART No. 66104

BTM CHANGE GEARS. Precision cut teeth give smoother pick motion and much longer service.

BTM PART No. 26118-80



CHANGE GEAR STUD with brass bushing.

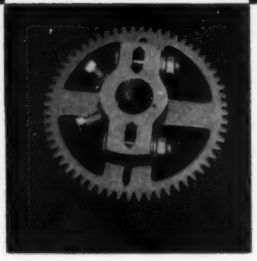
BTM PART No. 1955-S

CHANGE GEAR STUD with 76790 brass bushing.

BTM PART No. 76789

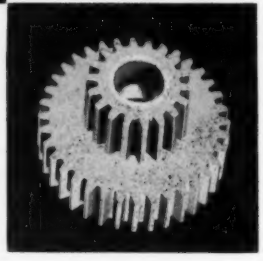
BTM HARNESS CHANGE GEAR. Has special split feature for fast and easy installation.

BTM PART No 5642



BTM REDUCING GEAR. Has brass bushing for maximum service. Alemite fitting.

BTM PART No. 26201-XG



Check your needs THESE BAHAN PARTS GIVE *longer service!*

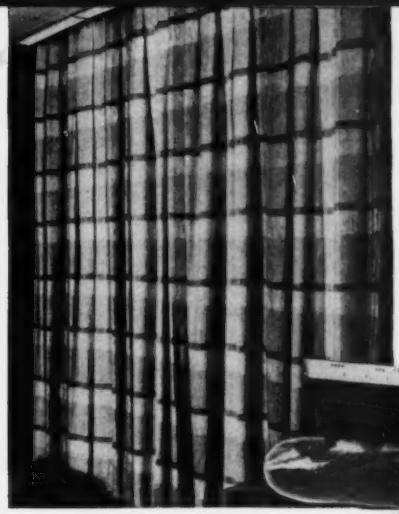
Many production hours can be saved by keeping an adequate supply of critical loom parts on hand at all times. Inventory your supplies now and fill in with genuine Bahan Parts.

BAHAN TEXTILE MACHINERY CO., Inc.

DESIGNERS AND MANUFACTURERS OF RELIABLE TEXTILE MACHINERY FOR OVER 30 YEARS

Greenville, South Carolina

Rayon Reports



Flameproof, multicolored plaid draperies of 90% Avisco rayon staple add sparkling beauty and soft luxury to the decor in the first-class smoking room of the new S. S. *United States*, flagship of the United States Lines.

Avisco rayon staple used in drapery and upholstery fabrics selected for new *S.S. United States*

View of one of the first-class cabins aboard the S. S. *United States* showing the antique satin upholstery made of a 60-40 blend of Avisco rayon staple and cotton.

As the new S. S. *United States* sails the Atlantic, rayon is an important contributor to her beautiful, practical, and safe decorations and furnishings.

ANTIQUE SATIN material made of a 60-40 blend of Avisco rayon staple and cotton was chosen for the upholstery fabrics in many of her first-class staterooms and lounges. In addition, multicolored plaid draperies made of a 90-10 blend of those fibers decorate her first-class smoking rooms. Like virtually everything else aboard the United States Lines' new luxury liner, both of these materials are flameproof.

THE UPHOLSTERY FABRICS have a woven check pattern with rayon warp and cotton filling. They are used in two vat-dyed colors, a rich emerald green and a soft red. The green material gains an iridescent quality through the interweaving of lighter and darker green tones, while the red combines touches of other colors to create a rainbow effect.

THE DRAPERIES are an outstandingly luxurious, multicolored plaid. In construction, they make use of 28 different color combinations formed by the interweaving of seven rayon warp colors and four cotton filling colors. A sparkling vitality is woven into the huge plaid, which is unrepeated across its entire fifty-inch width.

Each of the fabrics possesses a pleasant-to-the-touch, nubby texture and harmonizes with the blue-ribbon winner's contemporary decor.

The Avisco rayon staple was spun into yarn by Woodbury Mills, Inc., and the fabrics were woven by La Salle Silk Mills, Inc.; J. H. Thorp and Co., Inc., supplied the fabrics to Smyth, Urquhart, and Marckwald, Inc., interior decorators for the ship.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
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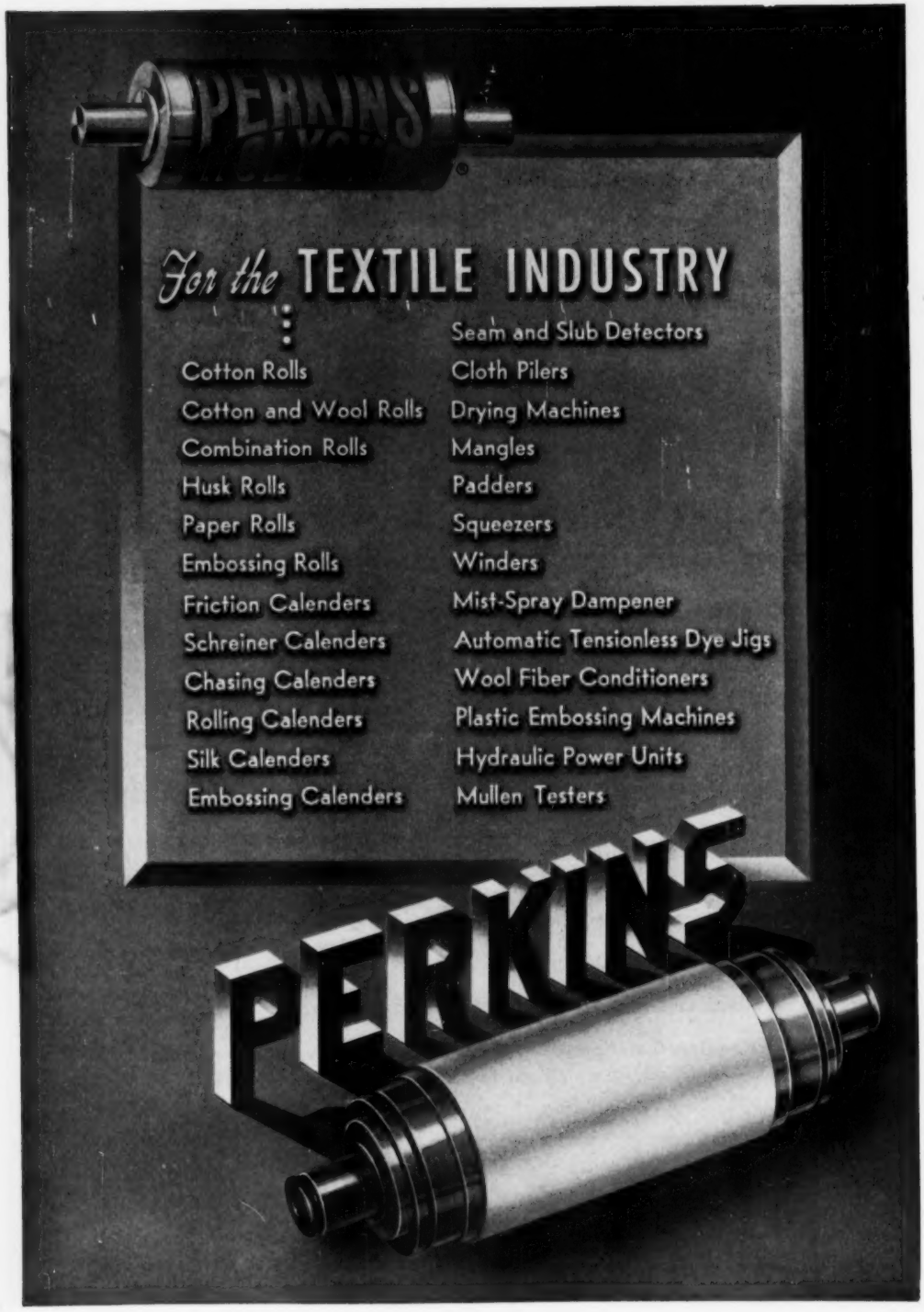
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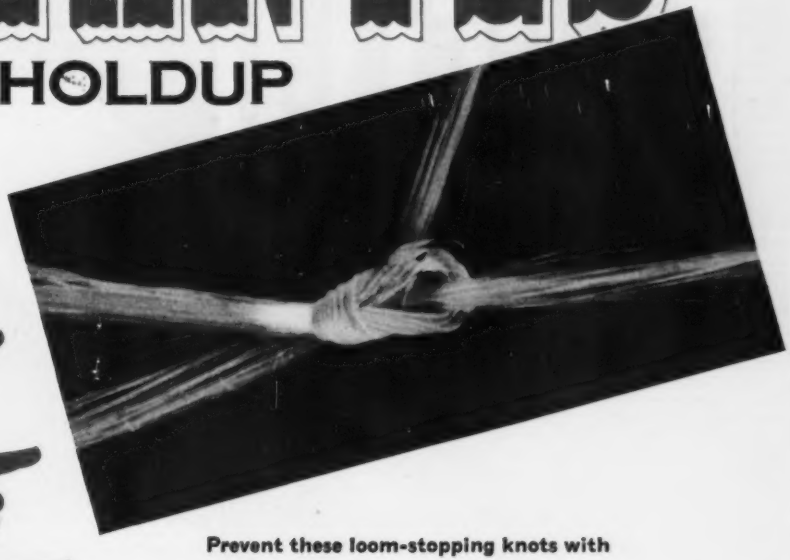

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Every mill man knows the crimes committed by knots in rayon yarn. They break, pull apart and cause mis-picks and overshots. And it's this grand larceny that holds up production, wastes time and money.

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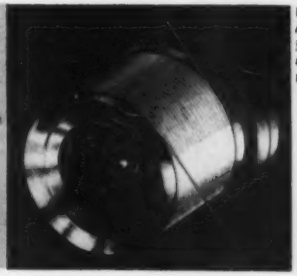

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HOW TO IMPROVE PLANT LIGHTING
through the Specification of Benjamin
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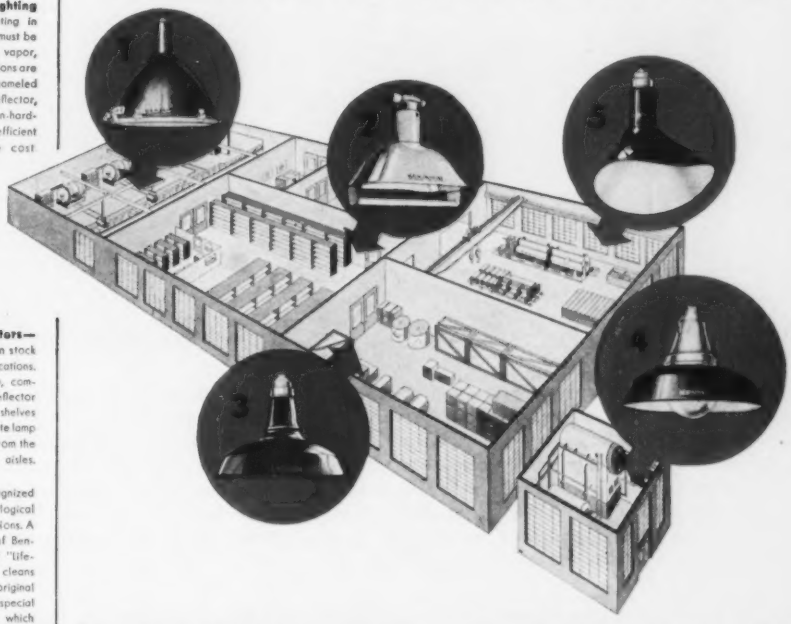
GOOD PLANNED LIGHTING recognizes the importance of specifying INCANDESCENT LIGHTING UNITS where their application will economically solve lighting problems due to location, atmospheric condition, seeing task or cost limitation.

1 "STEELITE" Armor-Clad Lighting Units—Designed for good lighting in Foundries, Mills, etc., where units must be mounted high and where smoke, vapor, dust or other severe service conditions are present. Heavy-gauge porcelain-enameled steel housing, Alzak aluminum reflector, heat-resisting glass cover and non-hardening gasket cover-seal assure efficient operation at low maintenance cost.



2 "STOCK-BIN-LITE" Reflectors—Efficiently lights shelves and bins in stock rooms, tool cribs and similar locations. The deep-skirted reflector shape, combined with exclusive V-shaped deflector bar provides uniform illumination of shelves and bin tiers, while assuring adequate lamp shielding to prevent direct glare from the lamps when looking down the aisles.

3 RLM DOME Reflectors—Recognized throughout industry as the most logical choice for thousands of plant locations. A top favorite for years because of Benjamin's battle-ship durability and "life-Time" Porcelain Enamel which cleans easily and permanently retains its original high lighting efficiency. Available in special Benjamin "Turnlox" hood design which permits reflector and lamp removal as one unit for cleaning on floor or bench.

4 "HEAVY-DUTY" VAPOR-TIGHT Lighting Units—Rugged, weather-proof vapor-tight units have heavy-gauge porcelain-enameled steel reflectors with non-corroding copper neck and aluminum cast hoods. "Made to order" for boiler rooms, pump houses and similar locations, where steam, moisture and non-hazardous vapors demand lighting equipment which can withstand the deteriorating effects of such atmospheres without break-down or need for frequent servicing and replacement.

5 "ELLIPTICAL ANGLE" Reflectors—For lighting from the side; specially built to overcome lighting difficulties caused by overhead obstructions like travelling cranes or tall machinery. Elliptical reflector shape not only directs light forward, but also to the sides. This helps build up illumination laterally, so light is adequately overlapped between units to prevent harsh shadows and annoying contrasts.

From the standpoint of economy, performance and adaptation to special environmental and operational conditions, Benjamin incandescent industrial lighting units are the best possible solution to many plant lighting problems. Good planned lighting, therefore, utilizes Benjamin incandescent units whenever their advantage is indicated.

Spotted around the model factory layout above, are typical examples of the application of Benjamin incandescent industrial units to plant lighting problems. In addition to solving these problems, the specification of Benjamin equipment brings the extra benefits of Benjamin "built-like-a-battleship" construction and Benjamin design advancements which facilitate maintenance and reduce operating costs.

How Benjamin incandescent lighting units may be used to solve plant lighting problems, is explained in the new Benjamin manual, "A Planning Guide to Improved Plant Lighting." This 36-page guide demonstrates the application of the 12 major Benjamin Lighting Systems to factory lighting problems, and contains much data relating to the use of incandescent lighting units for special "problem locations," such as are indicated above.

Your FREE COPY of the GUIDE will gladly be sent without cost or obligation. Simply address your request to: Benjamin Electric Mfg. Co., Dept. EE Des Plaines, Illinois.

BENJAMIN
Lighting Equipment
INCANDESCENT

#5177 Sold Exclusively Through Electrical Distributors

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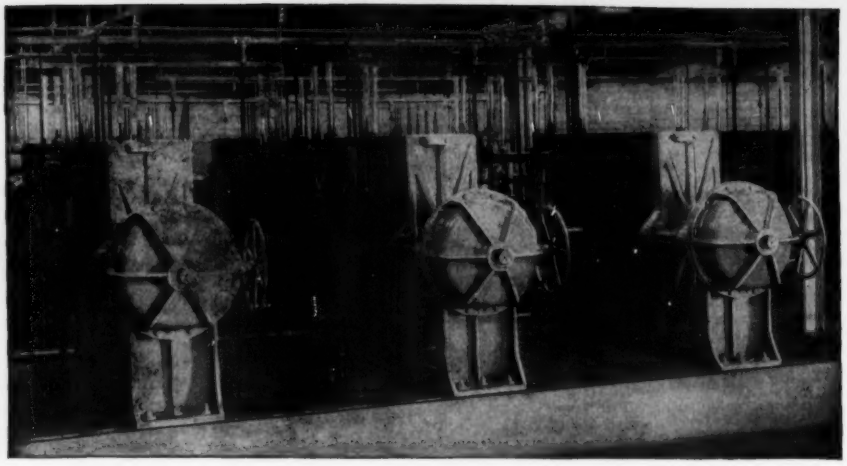

To industries that employ quantities of liquids in the manufacture of their products, dialysis offers: (1) a method of purification of solutions; (2) the means of removing unwanted material from the body of the solution; (3) the recovery of material for reuse in the original process; and (4) the discovery and creation of a by-product from industrial waste. Where the problem is stream pollution, dialysis offers a possible method that will save the expense of a neutralizing chemical.

WEBCELL CONTINUOUS DIALYSERS are now in successful operation for the recovery of caustic soda which has been contaminated with hemi cellulose. They have been approved and installed in most rayon plants in this country and abroad since the end of World War II.

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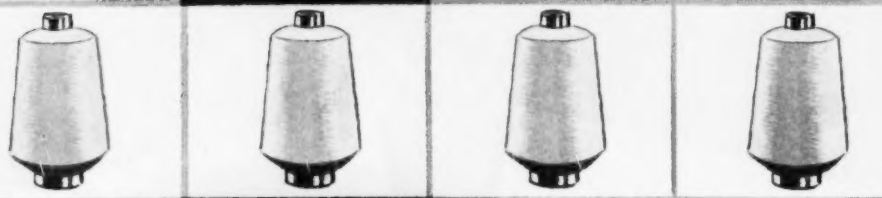

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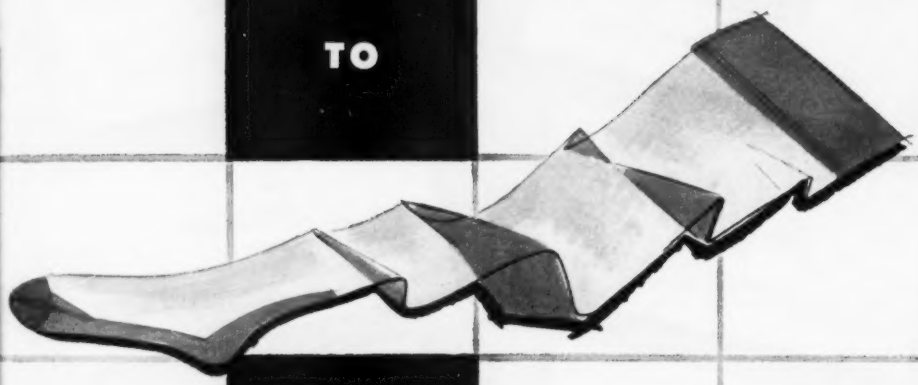

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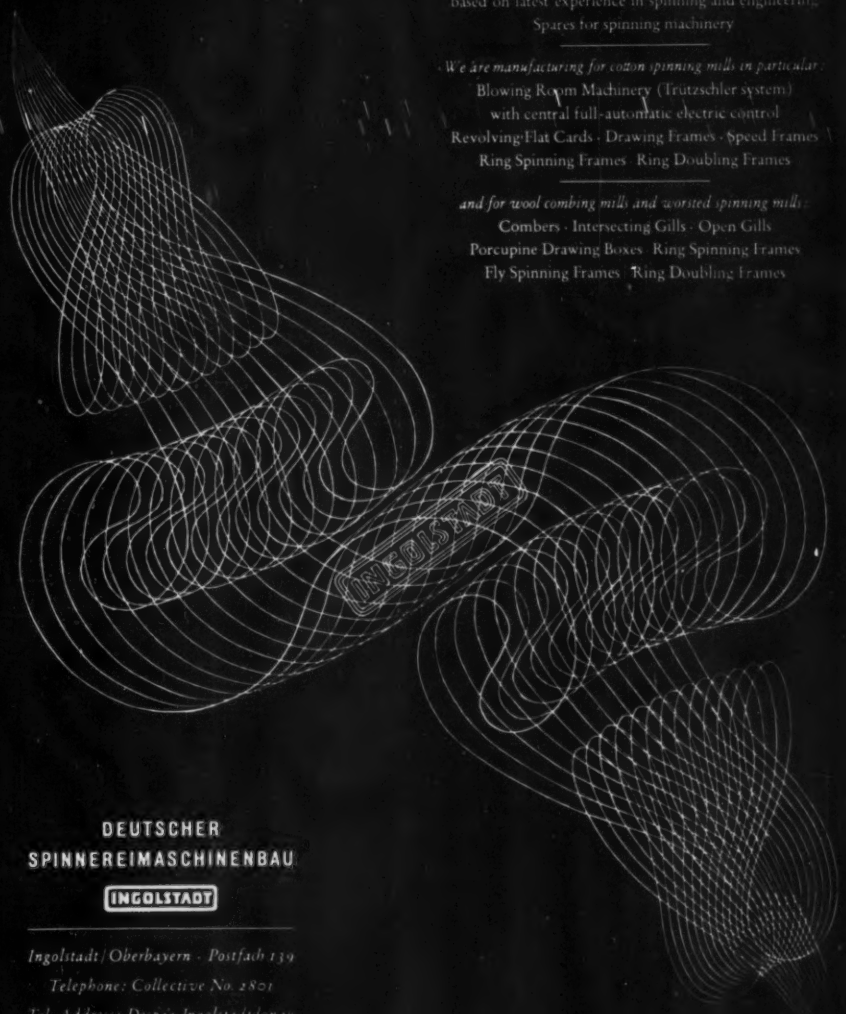

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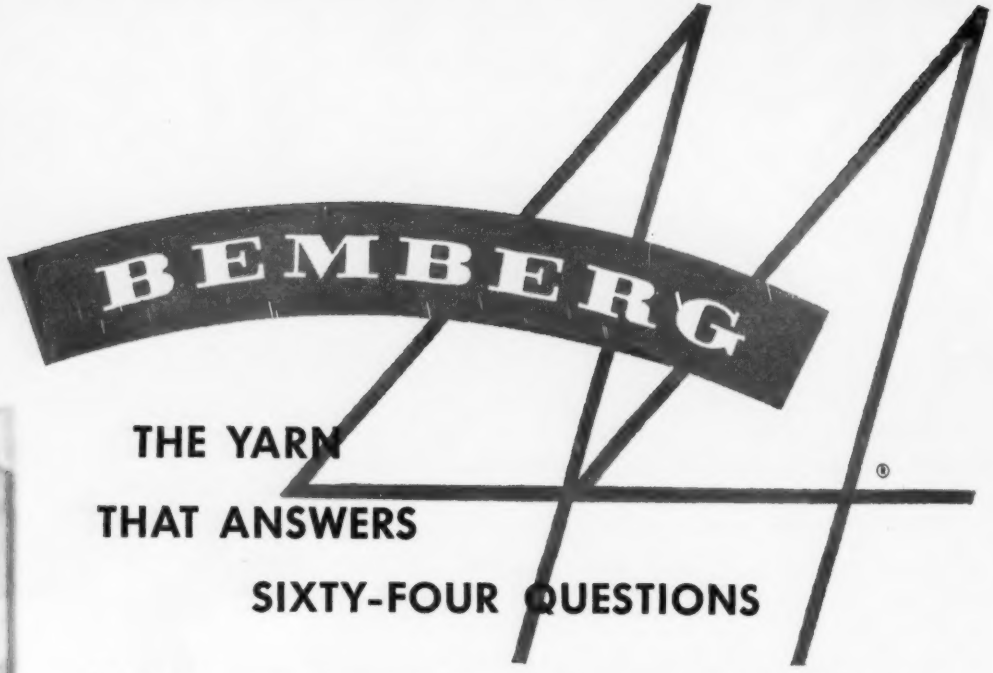

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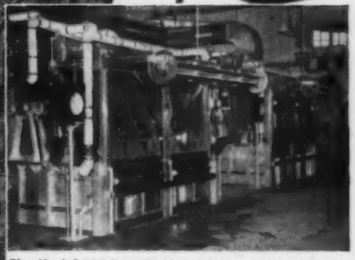

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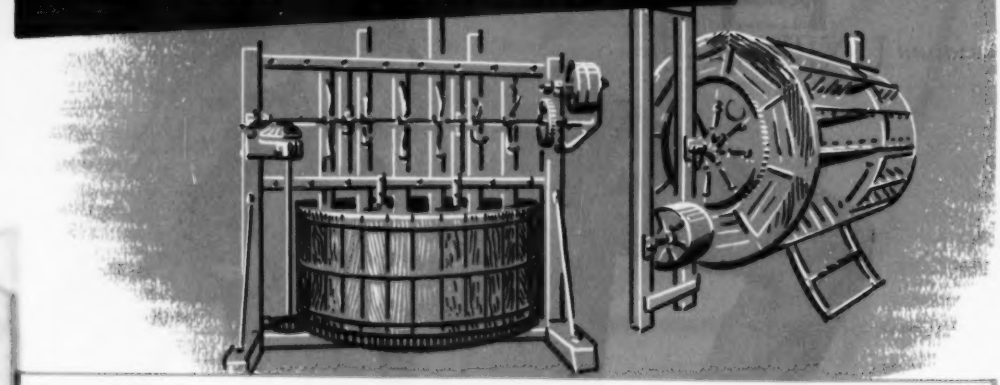

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Avcosols were developed in conjunction with and are manufactured by Atlas Powder Company, Wilmington, Delaware

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FASHION OF THE YEAR SAYS:

A CRÊPE...AND CRÊPE

CAN BE WOVEN ONLY ON

C&K S-6 LOOMS

The **LARRY ALDRICH** touch, his knowing way with a slimming length of stitch, tucked crêpe, letting the fabric do all the talking, and good dialogue it us with that witty neckline, the easy cut-line of buttons. $90 in rayon-and-acetate crêpe woven on looms manufactured by **CROMPTON AND KNOWLES.**

LORD AND TAYLOR, New York I. MAGNIN, California J. L. HUDSON, Detroit

VOGUE said it first in July . . . then again this month—crepe is back . . . and back to stay. Yes, *this* fall—and for many falls to come—crepe will be *the* material.

And today's crepe—a wonderful, modern material, entirely different from the old-fashioned crepe of the 20's — *has just one origin* . . . the modern S-6 Loom built by C&K.

See the magnificent fashions styled in crepe in the September 1 issue of Vogue . . . see the richness and quality in today's *new* crepe fabric . . . then see C&K for the famous S-6 Loom—the *only* loom on which you can weave this high-fashion fabric.

Today's Modern, Quality Crepe Is Woven By A Long List of Modern Mills on S-6 Looms

Crompton & Knowles LOOM WORKS

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PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA. • CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I. • CROMPTON & KNOWLES OF CANADA, LTD., MONTREAL, QUE.

GET big truck advantages at small truck cost with YALE WORKSAVERS

2,000 LB. HIGH-LIFT FORK WORKSAVER

SAVE **TIME AND SPACE.** Move giant loads up to 185 feet per minute—with safe, easy speed control. Utilize *all* storage and production areas.

SAVE **MUSCLE POWER.** Transport and lift capacity loads with a smooth flow of power that's easy on the operator, easy on the load.

SAVE **HANDLING COSTS.** Mechanize handling on low-load floors; in freight elevator operations; and in other areas where weight or space rule out big trucks.

PALLET WORKSAVER

TRACTOR WORKSAVER

PLATFORM WORKSAVER

HIGH-LIFT PLATFORM WORKSAVER

YALE WORKSAVER Electric Hydraulic Lift Trucks are built for loads up to 6,000 lbs., and are ideally designed to accommodate skids or pallets. Their wide acceptance throughout industry is based on the YALE reputation for top performance in electric trucks of *every* kind.

GET AN EYE-OPENING DEMONSTRATION RIGHT IN YOUR OWN PLANT OR WAREHOUSE

Your YALE Representative will demonstrate the cost-cutting advantages of the rugged WORKSAVER line to you. All you have to do is name the time and place. Naturally, there is no obligation.

Be sure to ask about the famous WORKSAVER "package"—*truck, battery, battery charger.* The YALE Selenium Charger saves time by charging WORKSAVERS right on the job.

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There's a Yale Worksaver to meet your every need

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Cutting costs with YALE WORKSAVERS interests me, too.

☐ Please have your local Representative call on me.
☐ Please send me a free copy of the new WORKSAVER Catalog.

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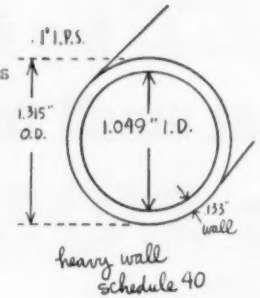
Company.....

Street..... City..... State.....

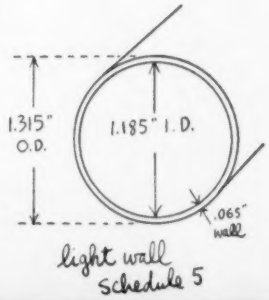
In Canada write: The Yale & Towne Manufacturing Co., St. Catharines, Ont.

YALE GAS AND ELECTRIC INDUSTRIAL TRUCKS • YALE HAND TRUCKS • YALE HAND AND ELECTRIC HOISTS

Back in the days when iron pipe was virtually the only kind available, it was necessary to specify this



But today with the high strength/weight ratio of stainless steel, the great majority of pipeline and process applications will have an ample margin of safety with this



Why pay for Schedule 40 pipe where Schedule 5 is more than adequate?

All sizes of Carpenter Schedule 5 pipe will easily handle 150 psi working pressures. Sizes under 1½" will safely handle considerably higher pressures.

By specifying this light wall stainless pipe you gain many advantages:

1. You save money. Schedule 5 pipe costs about half as much per foot as Schedule 40.
2. Schedule 5 has the same O.D. as Schedules 10, 40 and 80—for hook-up with existing lines as well as for new installations.
3. Its larger I.D. increases flow and capacity in pipelines, exchangers and other equipment.
4. It's lighter. This means quicker and easier installation.
5. You can save 10% to 25% on valves, fittings, weld rods, etc., because smaller O.D. material can frequently be used.
6. Fittings are available from several manufacturers . . . and stocks of Schedule 5 pipe are carried by conveniently located Carpenter distributors.
7. Tubing sizes can now be replaced with light wall pipe . . . for ready hook-up with standard valves, pumps, etc.

Light wall Schedule 5 pipe saves dollars—and makes a lot of sense!

For complete data on Carpenter Schedule 5 Stainless Pipe, call your nearest Carpenter distributor or write us direct. We'll be glad to send you the information you need. THE CARPENTER STEEL COMPANY, Alloy Tube Division, Union, N. J.

Export Dept.: The Carpenter Steel Co., Port Washington, N.Y. "CARSTEELCO"

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THE U.S. NEEDS YOUR STEEL SCRAP NOW

STAINLESS TUBING & PIPE

Analysis · Tolerance · Finish

- guaranteed on every shipment

For more information, write direct or use Reader Service post card.

"Warner & Swasey Pin Drafters are real profit producers!"

THESE are the facts that led the management of this progressive yarn company to make this statement:

- **6 operations replaced by 3 Pin Drafter operations.**
- **Production increased 18% from combing to roving.**
- **5 to 1 labor savings on machine operators—important in today's limited manpower market.**
- **Substantial reduction in waste.**
- **Improved product—more lofty, evener, better-appearing yarn.**
- **Packaging behind reducer cut in half—larger, uniform packages.**

This case story is not unusual. It could be yours. To investigate the profit possibilities of the Pin Drafter in your operations, call in our nearest Field Engineer.

WARNER & SWASEY
Cleveland
TEXTILE MACHINERY DIVISION

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61 Rivulet St., North Uxbridge, Mass.

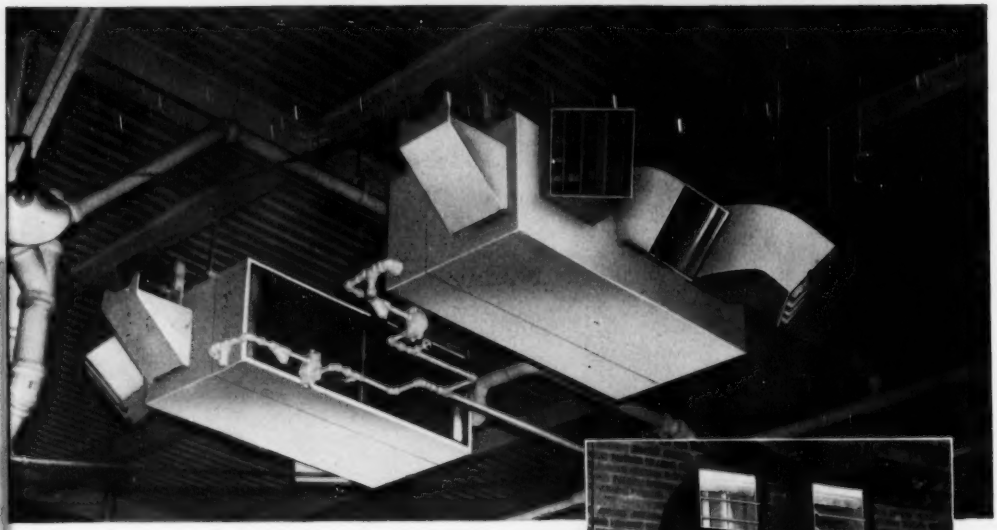
YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS...WITH A WARNER & SWASEY

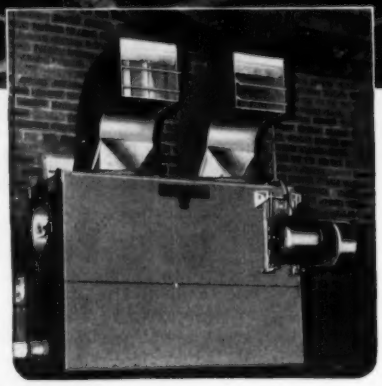
WILL YOU BE READY TO

"TURN on the HEAT"

FOR NEXT WINTER'S PRODUCTION?

IT'S HIGH TIME TO INVESTIGATE "Buffalo" UNIT HEATERS





Now's the time to make sure that warehouse, that shop, that mill or that production line is going to be WARM next Winter, and not a constant source of absenteeism and loss of profits! And it's relatively inexpensive when you use "Buffalo" Heaters. They're very simple to install. Complete selection of the types and sizes you need—for instance, the efficient "Buffalo" Lowboys shown above. Easily installed overhead, they take up no floor space.

ABUNDANT FRESH, WARM AIR!

At right, above, a "Buffalo" Highboy Heater with fresh air intake through a side wall is doing a thorough heating and ventilating job. Efficient "Buffalo" mixed-flow fans and Aerofin coils assure economical, positive heat distribution with minimum steam pressure. Why not look into this low-cost "Buffalo" heating NOW? Just write for Bulletin 3704-A.

DIAMOND JUBILEE 75TH ANNIVERSARY

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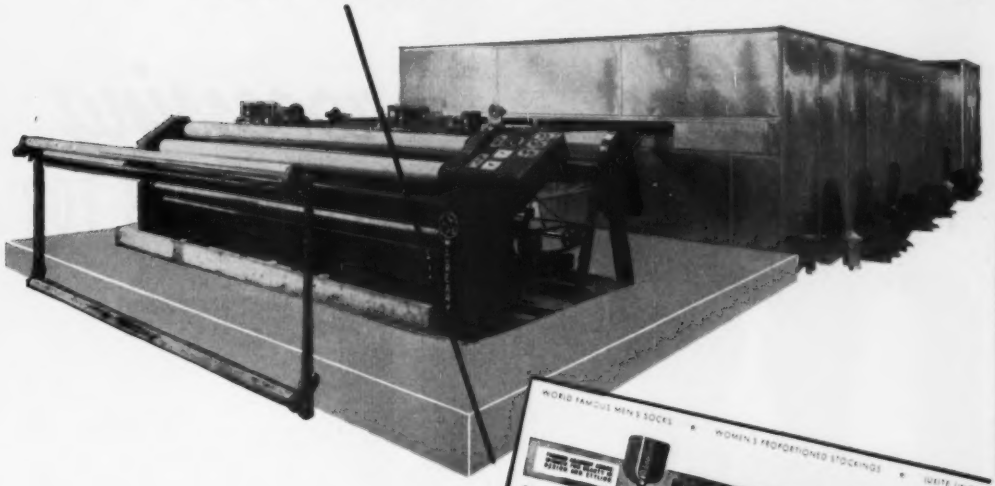
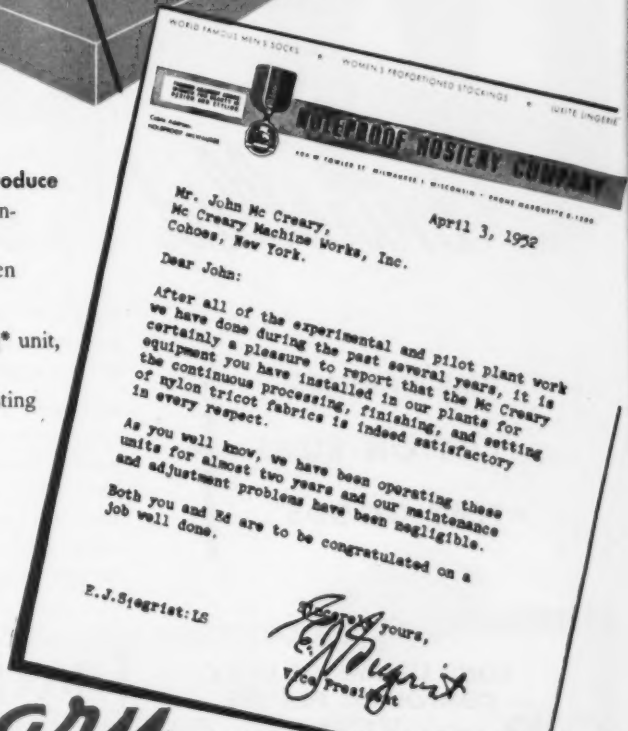
"WELL DONE"

says Holeproof Hosiery to McCreary





WORLD FAMOUS MEN'S SOCKS • WOMEN'S PROPORTIONED STOCKINGS • SUITE LINGERIE

HOLEPROOF HOSIERY COMPANY

Mr. John Mc Creary, April 3, 1952
Mc Creary Machine Works, Inc.
Cohoes, New York.

Dear John:

After all of the experimental and pilot plant work we have done during the past several years, it is certainly a pleasure to report that the Mc Creary equipment you have installed in our plants for the continuous processing, finishing, and setting of nylon tricot fabrics is indeed satisfactory in every respect.

As you well know, we have been operating these units for almost two years and our maintenance and adjustment problems have been negligible.

Both you and Ed are to be congratulated on a job well done.

Sincerely yours,

E.J.Siegrist:LS

Vice President

You, too, can save money, and produce superior fabrics, with the McCreary continuous process for feeding, drying and setting nylon and other tricots and woven fabrics.

The revolutionary radiant electro-setting* unit, and automatic pinning and overfeed** are each available for installation on existing tenter frames.

Send for FREE illustrated brochure on McCreary continuous process.

*completely equipped with G-E heaters and controls
**completely equipped with G-E controls

Patents applied for

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manufacturers of the finest in textile machinery since 1874

Custom Processing
ASSURES SUPERIOR LATEX COMPOUNDS FOR
Controlled Penetration

- **PILE FABRICS**
- **COTTON RUGS**
- **FLAT GOODS**

The proper control of latex penetration in backing processes cuts time, trouble and cost—helps give your products a competitive edge in quality.

Montgomery Bros. uses special laboratory methods of custom processing to assure latex compounds that give superior performance for your specific requirements. Write or call us now for full details on better, lower-cost "M.B." latex compounds—custom processed to assure superior controlled penetration and dry pickup per square yard.

COMPLETE LINE OF LATEX COMPOUNDS FOR THE TEXTILE INDUSTRY

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If you have problems on inventory or stock control, or desire to systematize your needle purchases, let a Torrington representative assist you. From long experience in gauging needle requirements of a variety of operations, he can frequently make specific recommendations for improving efficiency and holding down costs. Why not talk it over with our representative? There is no obligation.

call* TORRINGTON *for quality needles backed by dependable service

THE TORRINGTON COMPANY, Torrington, Conn., U.S.A.
Established 1866
Branches: New York • Philadelphia • Chicago • Boston • Greensboro, N. C.
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They are complete, compact units, ready for instant installation.

No time is wasted producing complex housings—a straight bore, machined to size, is all that's needed.

A simple arbor press operation seats Needle Bearings by press fit—no spacers or retainers are required.

The high radial load capacity, compact size, light weight and other advantages of Needle Bearings help improve product efficiency. Why not get the whole story from your Torrington engineer today?

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TORRINGTON *NEEDLE* BEARINGS

Needle • Spherical Roller • Tapered Roller • Straight Roller • Ball • Needle Rollers

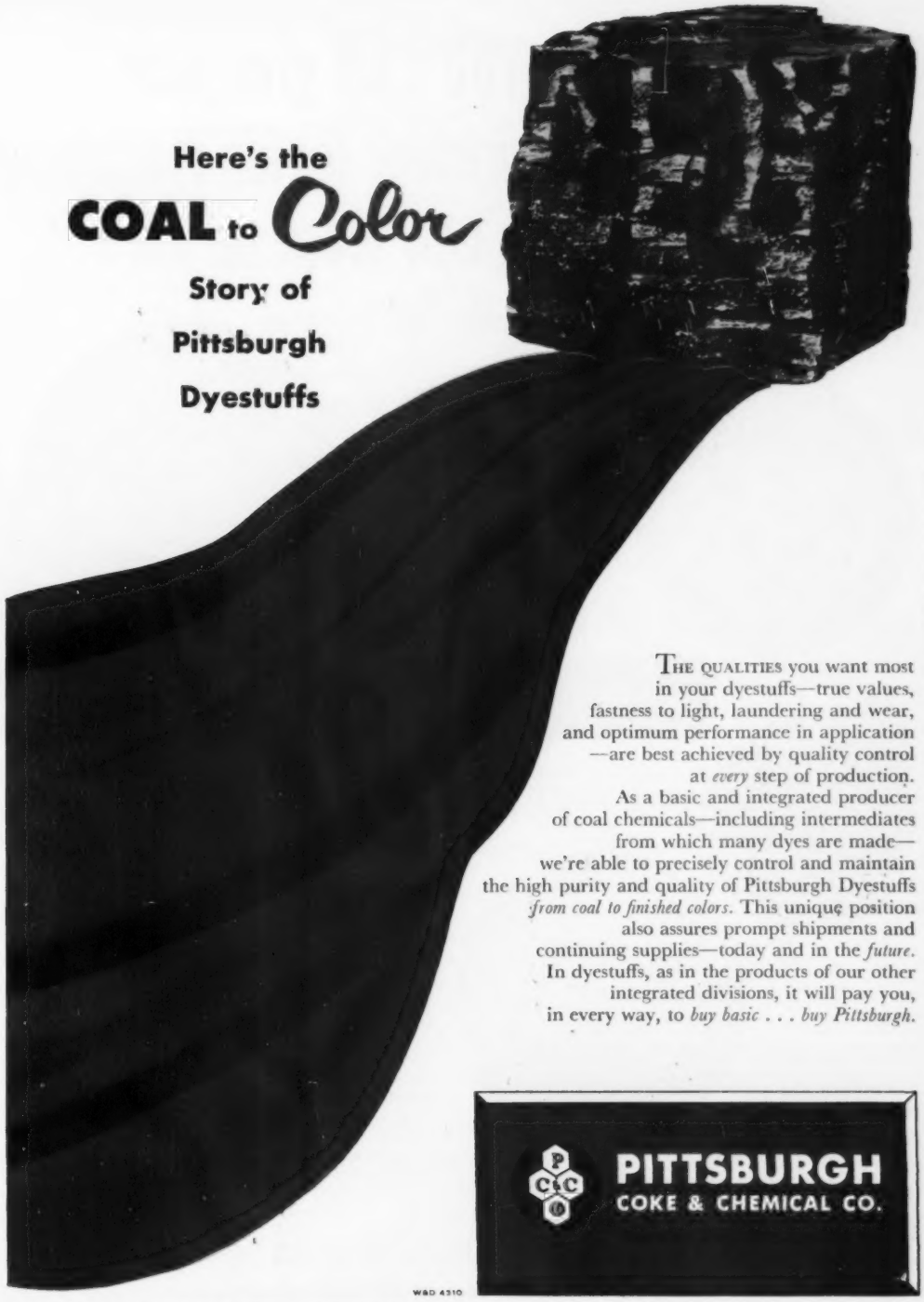
Here's the

COAL to Color

Story of

Pittsburgh

Dyestuffs



THE QUALITIES you want most in your dyestuffs—true values, fastness to light, laundering and wear, and optimum performance in application—are best achieved by quality control at *every* step of production.

As a basic and integrated producer of coal chemicals—including intermediates from which many dyes are made—we're able to precisely control and maintain the high purity and quality of Pittsburgh Dyestuffs *from coal to finished colors.* This unique position also assures prompt shipments and continuing supplies—today and in the *future.*

In dyestuffs, as in the products of our other integrated divisions, it will pay you, in every way, to *buy basic . . . buy Pittsburgh.*

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COKE & CHEMICAL CO.

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YOU CAN give your present textile machinery a new lease on life

MICRO "ML" heavy duty limit switch. Extremely versatile in installation. Combines extreme ruggedness with precise operation.

MICRO "N" switch with sealed plunger actuator. Elastomer boot prevents harmful agents from entering the housing through the plunger assembly.

MICRO "BAR" switch for use where high electrical capacity is required. Steady state current rating is 20 amperes with inrush capacity of 75 amperes at to 460 volts a-c.

MICRO "EX" explosion-proof switch. Underwriters' listed for use in many types of hazardous atmospheres.

make it more automatic with MICRO *Precision Switches*

MICRO "LN" general purpose limit switches are designed as limits, safeties and controls on all types of automatic machinery.

MICRO "OP" splash-proof switch is especially designed for use under conditions where extreme moisture is present.

Experience of plant engineers in textile mills all over the country shows that MICRO precision switches are invaluable aids in modernizing their present equipment to increase production.

These small, precise, dependable switches—used as limits, safeties and interlocks on every type of textile machinery—help make operations safer to personnel and more automatic, as well as preventing damage to machinery and materials. Their use permits many functions to be performed electrically instead of by manual or mechanical methods.

Shown on this page are a few types of MICRO switches which you will find are particularly adaptable to installation on textile machinery. Each type is available with a variety of switch actuators. All are ruggedly housed and protected from the effects of dirt, dust, lint or humid atmospheres. All are easily adjustable in the plant to meet specific needs.

MICRO authorized distributors are located near you to supply just the MICRO units best suited to your plant problems. Get in touch with the distributor nearest you today. Look under "Switches, Electric" in your classified telephone directory.

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MAKERS OF PRECISION SWITCHES

FREEPORT, ILLINOIS

A DIVISION OF

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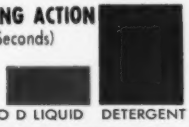
Speedier Wetting Action for Better, Quicker Penetration
Persistent Small-Bubble Foam for Improved Suspending Action
Superior Emulsifying and Dispersing Action for Better Detergency
Lower Price and Lower Use Cost
MAPRO D LIQUID

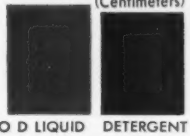
HERE IS
Typical Comparison Data

Mapro D Liquid vs. one of the most commonly used detergents on the market.

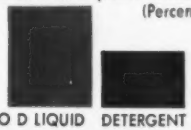
WETTING ACTION (Seconds)



FOAMING (Hard Water) (Centimeters)



DETERGENCY (Hard Water) (Percent)



Try out Mapro D Liquid *for...*

- Scouring yarn and piece goods of cotton, rayon, acetate and mixed constructions.
- Dye assistance.
- Replacing soap in any textile operation.
- Wetting out, emulsifying and detergent operations.

IT'S A BETTER DETERGENT AND IT COSTS LESS!

Mapro D Liquid in comparative tests with widely used detergents in common use today shows superior results in every phase of detergent activity. See the typical examples in the panel to the left. And Mapro D Liquid is priced below these other materials.

We'll gladly send a sample for tests . . . or, better still, arrange with you for a mill-scale run at your convenience.

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TEXTILE DIVISION
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Part of SARGENT's Research Laboratory, Specifically designed to help solve drying problems for Industry.

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any mill condition and any stock condition can be duplicated, to determine:

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2. How to attain highest production rate in pounds of stock per hour per square foot of drying area, economically.
3. Air flow data
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6. Dryer length and design
7. Apron or roller (feeding) speed
8. Exact development of drying curves required.
9. Possible simple changes in stock preparation prior to drying, to attain maximum quality and efficiency.
10. Controls required to maintain quality and quantity drying in uniform, continuous production.

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C. G. SARGENT'S SONS Drying Research Laboratory for Industry is staffed by men who KNOW their jobs. They have the mental curiosity of the true scientist combined with the dollars and cents, how-can-it-be-done-to-keep-quality-up-and-cost-down outlook of experienced mill men. Here is an invaluable source of experience and knowledge, to serve you and your industry. Wherever a drying process occurs, from food to plastic, textiles to rubber, paper to paint, SARGENT'S Drying Research Laboratory is highly qualified to serve, advise, recommend, and design special drying equipment.

Bring us your drying problems — the more difficult they are, the better we like them!

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With a little planning *you* can help stretch out the nation's stainless supply — and get faster delivery of stainless for *yourself!*

Crucible will be glad to help you accomplish this. Our metallurgists and stainless fabricating specialists have a wealth of experience with stainless. They can help you select satisfactory grades and finishes more readily available than those you are now using. This will help ease the bottleneck on stainless and will enable you to get faster delivery.

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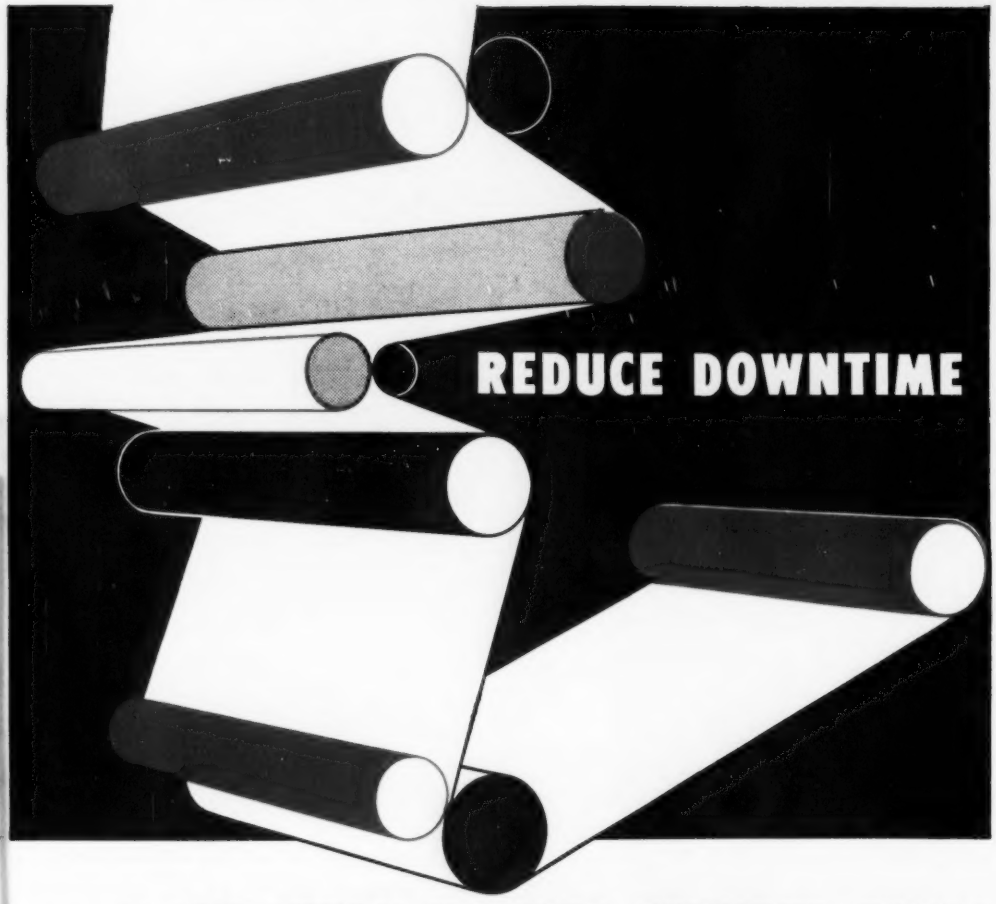
REZISTAL STAINLESS • REX HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE STEELS



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Downtime for roll troubles due to oxidization, hardening, corrugating, cracking, or separation of rubber from the metal core is virtually unknown in Manhattan rubber covered rolls • Manhattan specialists are continually improving production methods and conditions in order to apply rubber covering that will meet any demand for high speed, permanent density, etc. Your costs go up when you have to stop production to change rolls. Manhattan Rolls last longer and lower your costs • Call in a Manhattan roll engineer.

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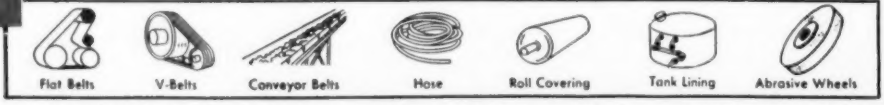
MANHATTAN RUBBER DIVISION — PASSAIC, NEW JERSEY

RAYBESTOS-MANHATTAN, INC.



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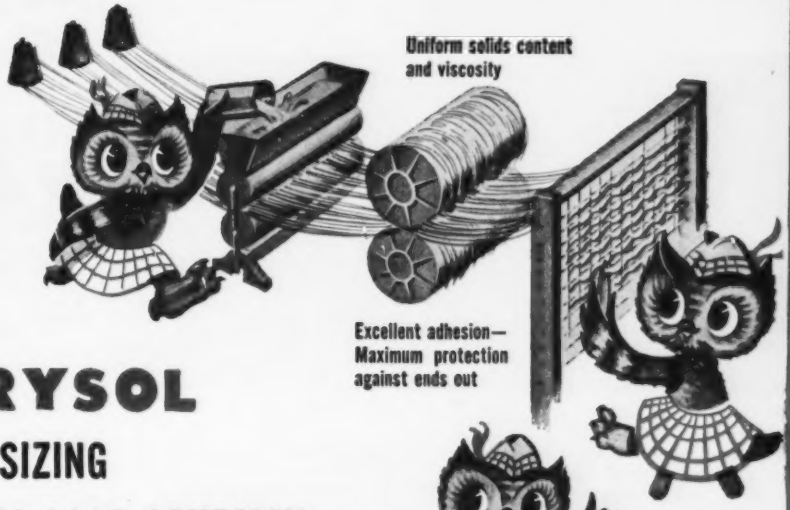

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NYLON SIZING ASSURES GOOD ADHESION— PREVENTS ENDS OUT

For warp sizing nylon—
ACRYSOL A-1

For single end sizing nylon—
ACRYSOL A-3

ACRYSOL sizes give essential protection to nylon weaving or tricot knitting yarns at lowest cost. Be wise and thrifty—write for full details of these polyacrylic acid sizes.

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ACRYSOL *is a trade-mark, Reg. U. S. Pat. Off. and in principal foreign countries.*

ONLY *Fletcher* EXTRACTORS offer such a complete range of sizes

30 inch- 55 pounds*

33 inch- 90 pounds*

40 inch- 130 pounds*

48 inch- 190 pounds*

60 inch- 300 pounds*

Yes, Fletcher alone can supply the right size extractor for every textile requirement. With our "Junior" Extractor made with 30" and 33" basket sizes and the famous "Whirlwind" with baskets in 40", 48" and 60" diameters, you can now balance your extractors with your dyeing machines. At the same time, you can be sure of getting Fletcher's many design features and high quality construction. Remember, we are specialists in the manufacture of extractors and have the experience and know-how to assist you in solving your extracting problems. Our engineers will gladly consult with you—or if you'll tell us the size in which you are interested, descriptive bulletins will be sent you.

* Pound capacities are for rayon skeins, dry weight.

— CONSTRUCTION FEATURES —

The "JUNIOR"

- Safe—Won't start until cover is closed. Cannot be opened until basket is stopped.
- Smooth stainless steel basket cannot harm fabrics.
- Exclusive Fletcher "Super Self-Balancing." High stability up to 10 pounds out of balance.

The "WHIRLWIND"

- Heavy stainless steel basket—glass smooth interior. No corrosive steel reinforcing bands. Permanently safe.
- Finger-tip control for automatic braking.
- Easy to load and unload.
- Compact. Saves floor space.

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Ideal for BLENDS

TYPICAL SYTON APPLICATIONS IN LEADING MILLS

MILL A—55-45 wool-rayon blend. Applied 1.5% Syton to wool stock; then blended before carding. Front roll speed increased from 105 to 139 r.p.m.—resulting in over 30% increase in production.

MILL B—50-50 wool-rayon blend. Applied 2% Syton, 3% oil emulsion. Stock carded well and was spun to 3⅛ run yarn. Tensile strength increased from 75 to 89 lbs.—a gain of 18%.

MILL C—80-20 wool-nylon blend. Applied 2% Syton, 4% oil to wool stock; then blended with nylon. Overseer attributed improved spinning to uniformity of sliver and yarn.

MILL D—50-50 wool-Dynel blend. Applied 1% Syton, 2½% oil (based on weight of wool) to blended stock. Spun to 6 run. Good control of fibers, smooth, uniform yarn noted.

MILL E—50-50 wool-viscose blend. Applied 1½% Syton, 3% oil to wool; then blended with rayon. Mill had used Syton for 18 months on blends, including virgin and darnetted wool, acetate, viscose, and nylon, with consistently good results.

New yarn strength and uniformity...with SYTON

Whatever you're cooking up . . . in the way of blended woolen fabrics . . . a dash of SYTON can do wonders for it.

Mill experience across the country shows definite, measurable increases in the strength, uniformity and spinning qualities of wool blends that have been given the benefit of Monsanto's silica sol additive.

- Sytonized wool-rayon yarn is 10-30% stronger.
- Smooth rayon staple approaches the spinning behavior of serrated wool fiber when Syton is applied to control inter-fiber slippage.
- Ends down are reduced...finer counts (or equal yarn strength with *less* twist) are standard...production is improved all along the line.

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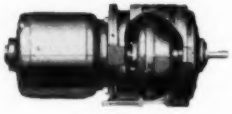
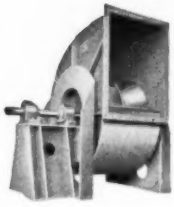


Gyrol Fluid Drives



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Substantially reduces labor costs and cuts drying time in more than half.

The "Stienen-Obermaier" Combination High-Speed Extractor-Drier has been perfected after many years of practical research application and has been enthusiastically received by the entire trade. This new system of extracting and drying has cut the total drying time more than half over other systems and has proven a superior method to any other available for package drying. This Combination High-Speed Extractor-Drier can be utilized by even the smallest package dyer to great advantage.

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Submit your sample package to our laboratory and you shall receive exact data on your type of yarn.

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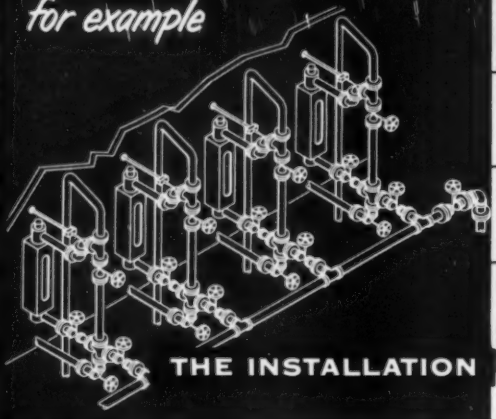
...on Bleach Plant Piping for example



THE INSTALLATION

Crane valves on chlorine rotameter control board in pulp stock bleach plant of The Northwest Paper Co., Cloquet, Minn.

VALVE SERVICE RATINGS

CORROSION-RESISTANCE:	Excellent
SUITABILITY:	Designed for chlorine service
MAINTENANCE COST:	Low – Routine only
SERVICE LIFE:	Now more than 4 years
OPERATING RESULTS:	Better, safer chlorine control
PRICE:	Lowest cost in terms of service given
AVAILABILITY:	Stock item in Crane line

THE HISTORY

Tough and destructive as is chlorine service on valves, this plant is enjoying greater freedom from valve trouble than ever before. Since installing Crane Chlorine Valves, more than 4 years ago, the plant finds them *"the best we have ever used."*

Operating at pressures from 70 to 100 psi, at 110 degrees F., these Crane valves have required but minimum maintenance and servicing. They have helped make important savings in chlorine valve costs. The customer reports 3-way satisfaction with Crane Chlorine Valves: their good performance; their low cost of maintenance; and their continual ease of operation.

THE VALVE

Strong yet compact, Crane No. 1644 Forged Steel Valves are recommended for chlorine gas or liquid, free from water, at temperatures up to 300 deg. F. Disc and seat ring are Hastelloy "C"; stem is Monel. Hard deposits do not hinder this narrow-bearing, tight-seating design. Bonnet joint remains leakproof with corrugated soft Monel gasket. Globe and angle patterns. See your Crane Catalog or Crane Representative.

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...and pay for repairs while production stands still

2 **Pay overtime**

...and have repair costs eat away your profits

3 **Standardize on VEELOS...**

...and change belts in up to 1/10th the time
...save labor, save time and save overtime
...keep machines producing for maximum profit

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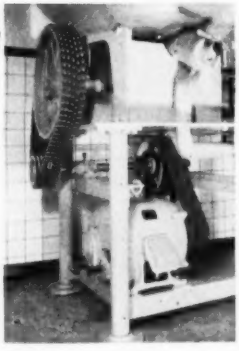
Complete Adjustability—vibrationless, full power delivery is assured because uniform tension on each belt in a matched set can be maintained.



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gives complete details on construction, installation and uses. We'll gladly send you a free copy of this 28-page fact-full book... write today.

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Bronze-Mounted IRON BODY VALVE

CUTS YOUR MAINTENANCE

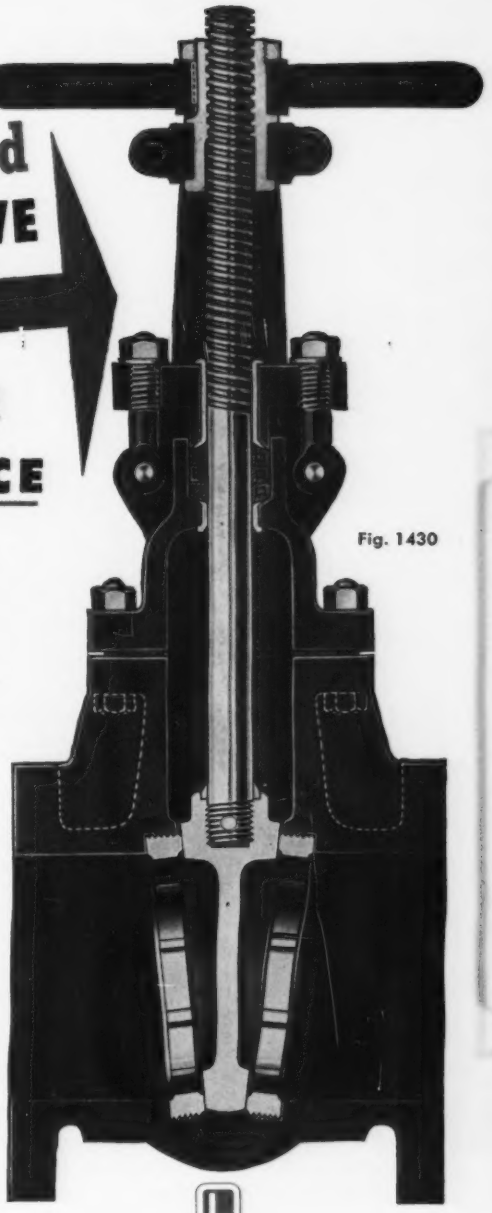

Fig. 1430

Only Lunkenheimer Iron Body Valves have stems made of "Stemalloy"* — the patented bronze alloy which outwears all other stem materials three-to-one. "Stemalloy"* stems have been tested at more than 300,000 actual openings and closings. Millions are in use . . . without a single failure.

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*Patented Alloy

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SANTA CLAUS

Could Die of Old Age

No one shoots Santa Claus. This remark about a government which spends and spends and spends may well be true. But it is also true that Santa Claus is an old man. At his age overwork might well kill him.

It is with the possibility of working Santa Claus to death that this editorial is concerned. No position is taken as between the contending political parties in the present campaign. Our concern is with the problem of protecting Santa Claus.

It is true that as a nation we now enjoy great prosperity. The prosperity is not nearly so general as the political advertisements of it would suggest. Millions of individuals, notably those living on pensions, annuities and other fixed incomes, have been robbed of half their purchasing power by inflation during recent years, and whole industries know little or nothing of boom times.

However, measured by so basic a gauge as unemployment, we do have great prosperity. Less than two million of our total working force of over 64 million are unemployed, and many of them are unemployed only while moving from one job to another. The real income, i.e., what their dollars will buy, of those with jobs is somewhere near its all-time peak.

Our Prosperity is Precarious

The prosperity we enjoy, however, is precarious. This is primarily because it is dependent upon a rising volume of expenditures by the federal government. At present almost a quarter of our entire national income is ladled out through Washington, and in an ever increasing amount.

If, as matters now stand, federal expenditures were to be suddenly and sharply cut, our government-financed prosperity would be severely upset. But if the federal government were to try to keep right on providing prosperity by steadily increasing its expenditures, the end result would be more certainly disastrous. It would be a crash caused primarily by having continuing inflation of prices destroy the value of the dollar.

Higher government expenditures of worthless dollars then could accomplish nothing. Santa Claus would be dead from overwork.

To Provide Firm Foundations

The general route to be followed in putting firm foundations under our prosperity is quite clear. It involves two steps which must be taken closely together. The first is to stop the continuous increase in federal expenditures. The second step is to substitute expanding private business for government-financed business as the principal foundation of expanding prosperity.

The increase in federal expenditures can be stopped without sacrificing any effective measures now directed toward meeting our top priority requirement—protection from armed Communist aggression. The most competent authorities of both major parties agree it can be done by (1) better planning of and the elimination of outright waste in defense arrangements, and (2) cutting those civilian expenditures which cannot be justified at the same time we are undertaking a great new load of defense expenditure.

It is also possible to substitute expanding private business for government-financed business. The problem is primarily that of relieving private business of the staggering load of federal taxation it now is carrying. Federal taxation now takes 52 per cent of all corporate profits and 82 per cent of all so-called excess profits. If it were not for the forced draft placed under our economy by rapidly mounting defense expenditures, this burden would surely lay a disastrous blight on private business expansion. If expanding private business is to have a chance to play its critical role as a subtitute for government-financed business, its taxes must be cut, and soon.

It Won't be Easy

It would be naive to contend that it will be easy to check the expansion of federal expenditures. They have been running wild too long, and in the process contributing to a feverish, inflationary prosperity. Likewise, there is no reason to believe that the easing of the load of business taxes is going to be easy. The basic blight it puts on business expansion has been too long obscured by having our economy dosed with artificial stimulants, most notably enormous injections of federal expenditures.

The Key Question—How Long?

It is obvious that prosperity is going to be a major topic of discussion in the present political campaign. There is nothing the matter with that. Prosperity is a key concern of the voters in choosing a national administration.

To make the discussion of prosperity really useful, however, it is important to ask and get answers to the right questions about it. The key question is not whether or not we have prosperity. That we have it in large measure is generally conceded.

The key question is, "How long can we continue to have prosperity?" The answer—not very long if we continue to rely primarily on new injections of inflationary federal expenditures. Santa Claus, be it remembered, is no youngster. If we continue our present improvident course, he will be worked to death. Those politicians, regardless of party, who see this clear danger and who have plans to escape it are facing up to the crucial question about our prosperity.

McGraw-Hill Publishing Company, Inc.

TEXTILE WORLD
VOL. 102 • NO. 9 SEPTEMBER, 1952

ANNUAL SYNTHETICS SECTION

Where Are Synthetics Going?

Comparative Prices

	1948	1949	1950	1951	July '52
FILAMENT YARNS					
Viscose, 150-den.	0.75	0.73	0.78	0.78	0.78
Viscose, 1100 den.	0.57	0.55	0.57	0.63	0.62
Acetate, 150 den.	0.74	0.73	0.74	0.76	0.70
Nylon, 15 den.	5.50	6.00	6.00	6.00	6.00
Nylon, 70 den.	1.75	1.90	1.90	1.90	1.90
Orlon, 75 den.	—	—	3.75	3.75	3.75
Dacron, 70 den.	—	—	2.05	2.35	2.35
STAPLE					
Viscose, 1.5 den.	0.37	0.36	0.38	0.41	0.41
Acetate, 3 and 5 den.	0.48	0.43	0.42	0.49	0.44
Nylon, 15 den.	—	1.75	1.75	1.75	1.75
Dynel	—	1.25	1.25	1.25	1.28
Vicara	—	0.83	0.83	1.00	1.00
Orlon, 3 den.	—	—	1.90	1.90	1.90
Dacron, 3 den.	—	—	1.80	1.80	1.80
Vinyon	—	—	0.85	0.90	0.90
Acrilan	—	—	—	1.85	1.85

PRICES per pound of the newer man-made fibers run much higher than viscose and acetate but do not fluctuate so readily.

U. S. Synthetic-Fiber Use Increases

Year	Production (lb.)	U.S. Population	Av. Usage per Person (lb.)
1930	127,000,000	122,775,000	1.03
1940	390,000,000	131,669,000	2.96
1950	1,405,000,000	152,500,000	9.22
1951	1,504,000,000	155,500,000	9.71
Est. 1952	1,000,000,000	158,500,000	6.30
Est. 1960	2,000,000,000	177,500,000	11.25

INCREASE IN USE of synthetic fibers is expected to make annual consumption average more than 11 lb. per person in the United States by 1960.

By GEORGE M. MOISSON
Assistant Editor, TEXTILE WORLD

THERE ARE MANY FORCES working to advance the development, use, and acceptance of synthetics in textile and industrial applications. The technology of man-made-fiber manufacturing and finishing is one of the fastest-growing and most highly specialized fields in industry today.

Chemistry is making available some woods for pulp that never before were considered usable. With almost limitless pulp capacity, and with chemists who create miracles, we can visualize more and more use of rayon and acetate.

Some facts to back this up:

Rayon—already competitive with cotton in price, in product applications and in technology—is still faced with the task of finding a way to increase low wet strength and to improve fabric stability.

What's being done about it?

Dan River Mills' X-2 process, which modifies rayon chemically to make it assume a completely different hand and dimensional stability, is the keynoter. If we can place any faith in man's tenacity, we can look forward to this treatment becoming a practical reality in the near future.

Proctor & Schwartz is the proprietor of a rayon-stabilization process for knit goods that will find a place for rayon in the tricot and circular-knit field. Other people are putting time and effort on the problem of stabilization, and the problem will be defeated.

American Viscose has its Avcoset

U.S. Production of Synthetic Fibers
(millions of pounds)

	1948	1949	1950	1951	1952 (½)	Capacity 1953
Rayon Filament	562	544	627	658	187	1,129
Rayon Staple	184	130	189	207	70	
Acetate Filament	294	256	327	300	55	573
Acetate Staple	84	65	117	129	26	
Non-Cellulosic Filament	—	—	145	176	125	434
Non Cellulosic Staple	—	—		34		
Totals	—	—	1,405	1,504	463	2,136

PRODUCTION of synthetic fibers has fallen off this year because of the depressed market of the first half year but is bound to increase as long-term demand remains strong.

World Production of Rayon and Acetate

	1941	1948	1949	1950	1951
Filament — Totals (million lb.)	1,251	1,551	1,639	1,929	1,810
U. S. (% of totals)	35	55	49	49	53
Europe (% of totals)	47	37	40	34	34
Other (% of totals)	18	8	11	17	13
Staple — Totals (million lb.)	1,535	934	1,063	1,565	1,499
U. S. (% of totals)	8	30	18	20	22
Europe (% of totals)	73	66	74	62	62
Other (% of totals)	19	4	8	18	16

ONE-HALF of the world's rayon and acetate filament and about one-quarter of its staple are produced in the United States. And our capacity is being increased.

Relative Fiber Consumption in the U. S.

	1930	1940	1950	1951	July 1952	Estimated 1953
Cotton	85%	80%	69%	72%	73%	70%
Wool	9%	8%	10%	7%	7%	6%
Synthetics	3%	9%	21%	21%	20%	24%
(Regenerated)	(3%)	(9%)	(19%)	(18%)	(16%)	(18%)
(Man-Made)	—	—	(2%)	(3%)	(4%)	(6%)
Silk	3%	3%	—	—	—	—

COTTON is still king of the fibers, but by next year synthetic fibers will have taken over almost a quarter of the total U. S. market.

U. S. Imports and Exports of Rayon and Acetate
(thousands of pounds)

	1948	1949	1950	1951	1952 (½)
IMPORTS					
Filament	10,152	374	6,505	5,317	100
Staple	38,668	15,596	89,861	89,014	45,000
EXPORTS					
Filament	14,802	17,489	12,306	13,482	—
Staple	1,500	2,351	1,837	3,188	—

FILAMENT-YARN IMPORTS into the U. S. fell to a mere "trickle" during the first half of this year. Exports would be larger if it weren't for international currency problems.

treatment that makes rayon washable.

Many of the large fancy-goods firms such as Deering-Milliken, Stevens, Burlington, and others have their own proprietary finishes for rayon and blends that seem to defy wrinkles and soiling.

Acetate has already found its place in the market—its price is right, its handle hasn't been duplicated, and nothing yet has so nearly approached silk in usage. In the past thirty years, rayon and acetate have moved up from almost nothing to the place where they now stand—20% of all fibers used in the U. S.—a conservative figure, and one that is certain to grow.

Not much need be said about nylon. It has established itself in the household, in industrial and military use, and in glamour fabrics—the three sure signs of consumer acceptance. Nylon is still relatively high-priced; but when end use, consumer demand, and production capacity are considered, the price is of little consequence. Volume production, with the help of plants Du Pont has licensed, may tend to force prices down.

Dacron, even though relatively new on the market, has stirred up tremendous curiosity in consumers' minds; and its resilience, wrinkle resistance, and draping qualities have made it a "natural" for suitings—particularly in blends. In the present stage of commercial production Dacron is relatively expensive but lower in price than wool, whose use it is supplementing, if not displacing, in some selected fields. High, fluctuating wool prices are a distinct disadvantage to the "seasonal" operator. Dacron dyeing problems, static, and blending difficulties are being worked on and overcome by the cooperation of forward-looking mills and the research chemists and physicists who all stand to profit—both in prestige and in finances—by their efforts.

Vicara and other regenerated protein fibers of both vegetable and animal origin have been developed to a point where the price is low and consumer acceptance is improving. The early disadvantages of bad odor and low wet strength have been largely overcome by the use of corn protein, as in Vicara, and peanut protein in Ardil.

With no intentional slight to the lesser-known fibers—of which there are many of great potential appeal—we now turn to the acrylics. To many people in the industry it seems that herein lies the greatest potential growth of the man-made fibers.

The acrylics have one basic advantage in that the primary polymer, acry-

(Continued on page 300)

If You Want To Change Over To SPUN SYNTHETICS . . .

. . . and if you are now running cotton, some of the things you'll need to consider are:

- **Housecleaning**
- **Humidification**
- **Blending**
- **Machine changes**

By CHARLES W. KAY, Textile Engineer, The McPherson Co.

DURING RECENT YEARS the trend in textile manufacturing has been toward fabrics partly or completely composed of spun-synthetic fibers. Many mills have converted their cotton operations to the use of staple-synthetic fibers, and many other mills are now thinking of converting in order to take advantage of the popular demand for these fabrics.

This article gives some idea of what is involved in the conversion.

You'll Need Better Cleaning

Housecleaning must be done thoroughly, particularly from the rawstock warehouse through spinning. Loose cotton lint left on roof beams, window sills, etc., that may get mixed with the synthetics will very definitely show up in the dyeing and finishing operations. For example, synthetics dye differently from cotton, and any mixture of fibers will show up in dyed work as a mixture of dyed and undyed fibers in the same piece of cloth.

Machines formerly on cotton should be thoroughly cleaned, and oil should be removed as completely as possible from all exposed machine parts. Most synthetic fibers have a greater affinity for oil than do cotton fibers, and the oil is very difficult to remove.

Methods for doing the housecleaning task are numerous, but some are more effective than others and some are more economical than others. Those most commonly used in mills today are: long-handle brooms and brushes, compressed air, and suction cleaners.

The broom method of cleaning is in all probability the least expensive, but it is also the least effective as a result of the physical exertion required from the men who use the brooms. And brooms will not effectively clean corners, cracks, etc.

The compressed-air method is the cleaning method most commonly used, largely because compressed air is available and it will effectively clean inaccessible corners, cracks, etc.

The chief disadvantage in this method is that when the ceiling and overhead beams are blown clean, the lint falls on the machinery below. Then the machinery has to be cleaned, and some of the lint goes into the work in the form of slubs and gouts.

Vacuum cleaning is the most desirable method and should be given serious consideration by any mill that contemplates expanding its cleaning facilities.

Two types of vacuum cleaners are generally in use: central-station and portable cleaners.

The central-station system, while more costly, has the advantage over the portable type in that waste is transported by air through pipes from the area being cleaned to a receiver located in the wastehouse. This system also allows two or more men to clean simultaneously, whereas the portable cleaner allows only one man to clean at one time. Also, the portable-cleaner receiver must be emptied at frequent intervals and transported manually to the waste-storage area.

Your Woe Will Be Mixed Fibers

Cotton-mill men are well acquainted with the trouble mixed cotton fibers can cause—say, long-fiber reworkable waste getting mixed with short-staple stock. This kind of trouble is simple, compared with the trouble unintentional mixing of synthetic fibers or cotton and synthetic fibers can cause. Mixed cotton may cause a few "snowstorms" in the drafting processes, but that's the end of it.

Mixed synthetics, or mixed cotton and synthetics, may cause the snowstorms plus outright rejection of the cloth because of unlevel finishing.

One of your first steps should be to set up a routine for guarding against mixed fibers. It's as good as certain that you will still be running cotton for a long time, plus whatever synthetic fibers you take on gradually. So you must keep your cotton and synthetic fibers separate, except as you intentionally blend them.

The routine for keeping the fibers separate must start in the opening room. (You won't have any trouble in the warehouse because of the obvious difference in the shipping containers. However, if you process by lots or if you blend lots, you'll have to use a warehousing system similar to your cotton warehousing system.)

If your volume of production is sufficient, you should put an opening and picking line on the synthetic fiber or the blend you're running and let it stay on. If you have to change back and forth to cotton and synthetics, make certain that a thorough cleaning job is done.

Tinting laps for identification is a must if you run anything more than experimental or very small lots. The risk of mixed stock is too great, and the cost of supervision to avoid it is more expensive than tinting.

Remember that waste must be kept separate too. While you won't have much cleaning waste from your synthetics, you will have a considerable volume of expensive reworkable waste. If that gets mixed with your cotton waste, you've lost money.

If at all practicable, even at the cost of sacrificing some portion of your workloads, it will pay you to set up your jobs so that you have no mixed synthetics and cotton jobs. Beginning at the drawing tenders, it is all but impossible to keep operators from mixing waste.

On drawing, roving, and spinning, the best arrangement is to put your synthetics on frames isolated from the frames on cotton. If you can't do

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Careful Control of All Factors Is the Secret of Handling CONTINUOUS FILAMENT

- ✔ Tension, moisture, and static are critical factors in nylon processing
- ✔ Close control of conditions and careful maintenance of machines are "musts"
- ✔ Static is the most troublesome factor with Dacron and Orlon, but the use of agents and careful control of machines and atmospheric conditions iron out problems

By D. S. HAMBY
Assistant Professor, School of Textiles, North Carolina State College

Three Factors Affect Nylon

In processing continuous-filament nylon, control of tension, moisture, and static are most important.

Because the elastic recovery of nylon develops tremendous pressure on the package, tension must be carefully controlled during all operations in which yarn is transferred from one package to another. A glance at the stress-strain chart for nylon tells the story—a tension of 1.5 grams per denier will stretch the yarn about 10%.

The type of tension devices used should be given careful consideration. Several investigations of the effect of pinch-, snubbing-, and washboard-type tensions have shown that the pinch type applied the most uniform tension. These studies also showed that the snubbing tension tends to exaggerate small fluctuations in tension from the supply package. The washboard tension had a tendency to "chatter" unless the device was set carefully and unless variation in tension from the supply package was held to a minimum.

While the moisture regain of nylon is comparatively low, the fiber is quite sensitive to changes in humidity. Unless tension is reduced to compensate for an increase in relative humidity, stretched yarn will result.

In addition to an antistatic agent, humidity can be used effectively to combat the effects of static electricity, but the effect of the humidity changes on tension should be watched. Freedom from static can be achieved by processing yarns at a relative humidity ranging from 60 to 70%, but the proper tension should be established

To Handle Synthetics— TRAIN Your Employees

Your training program should start when your employees roll the packing cases of synthetic yarns into your plant—and the program should end when those same employees load the woven cloth on box cars or trucks. Today, each plant employee should be trained in—

- ✔ Safe work methods
- ✔ Quicker and easier ways to do the work
- ✔ Ways to set the machines for better products

By RICHARD B. PRESSLEY, Assistant Editor, TEXTILE WORLD

EVERY MILL that is producing synthetic yarns is paying for a training program. The mill that is not training is paying for the program just the same —with damaged yarns from the preparation processes, with second-quality cloth on the looms, and with high accident rates.

Forget Your Old Methods

Old methods of training, where each employee is allowed to pick up his job knowledge from another worker, just aren't good enough on synthetics. It takes more skill to handle a filament yarn little larger than a spider web than it does to handle coarse staple fibers. The worker must develop manual dexterity to be able to handle these fibers.

It takes machinery that is precision-set to handle synthetic yarns. Ring rails must be level, spindles must be

for these conditions. Once set, both tension and relative humidity should be held constant. Tension can be adjusted if humidity is held constant, but if humidity is increased, tension must be decreased.

Redrawing Unsized Yarn Is Critical

Redrawing of unsized nylon is much more critical than redrawing of sized yarns. If yarns are sized the size not only protects the yarn but tends to prevent stretching.

The tension on unsized yarn during redrawing should range from 1 to 3 grams. The winding speed normally ranges from 250 to 350 yd. per min., depending on the tension devices and the condition of the equipment.

Tension devices, guides, bobbins, and any other parts of the machine that are touched by the yarn should be inspected frequently for nicks, rough spots, and any other conditions that could cause broken filaments. Heads of bobbins, in particular, should be examined frequently for bruised spots or cracks that could cut filaments during either winding or twisting.

Use ½-lb. Bobbins In Twisting

Because of higher production, lower cost, and better quality, practically all nylon yarn is thrown on upstroke twisters. Spindle speeds of 13,000 to 19,000 rpm. are possible.

Again in twisting, tension and humidity are of great importance. For low-denier yarns such as 20 to 50 den., tension should range from 1.5 to 5 grams. Tension can be slightly higher for heavier yarns, but grams per denier should not exceed 10. Atmospheric conditions are usually 80 to 85° F. and 60 to 65% r. h.

Take-up bobbins that hold ¼ lb. should be used on upstroke twisters. If 1-lb. bobbins are used and winding is done over-end, considerable trouble will be encountered when winding from close to the barrel of the bobbins.

Twist-setting of nylon is usually done at 170° F. dry bulb and 160° F. wet bulb. The length of exposure to these conditions varies from 1 to 3 hr. depending on denier and twist.

If it is necessary to twist-set the yarn twice, the temperature for the second exposure should be higher than for the first cycle. Because of the thermosplastic properties of nylon, when yarn is once heat-set, a higher temperature for the second heat-setting is necessary.

Control Sizing and Conditioning Closely

The sizing of nylon for hosiery knitting is a simple process but one that must be rigidly controlled. The sizes most commonly used are PM-90 and PM-132.

The PM-132 size is normally applied to the yarn directly from the pirns before twisting. This yarn is commonly used as leg yarn, and the percent pickup is generally about 2.5%. The PM-90 is applied to the yarn after twisting. The percent pickup of PM-90 varies with the type of yarn. For example, 30-den., 20-turn yarn should have a pickup of about 3.5%, whereas 50-den., 10-turn welt yarn only needs about 2.5% pickup.

After sizing and before twist-setting, the yarn should be conditioned. The length of time necessary for conditioning depends upon the amount of yarn on the package. For ¼-lb. packages the lag period is usually about 24 hr., and for 1-lb. packages the lag period is about 36 hr. After twist-setting, the yarn should be conditioned again before coning. This conditioning period is usually about 12 hr.

The leg yarn that has PM-132 applied before twisting must be passed through the single-end sizing machine a second time when about 2.5% PM-90 is applied on top of the PM-132.

The machines used for single-end sizing are either the Universal Model 250 or the Foster Model 75. The machines are similar in design and perform the same function. Regardless of which machine is used, there are several factors that should be controlled very closely.

VISCOSITY OF SIZE. Most mills have found that a viscosity of 115 to 120 cp. at 78 to 80° F. works very well. Since the size solution is about 90% water, it is a simple matter to add distilled water to control the viscosity. Very elaborate systems have been developed for automatically con-

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correctly aligned, warper-creel tension on the ends must be uniform, each batch of slashing formula must be mixed accurately, loom beams must be aligned, warp patterns must be drawn in correctly, looms must be set to make good cloth, and cloth must be graded and mended. All these things must be right on the nose—not just approximations.

Training is required to set these machines and to do these jobs right!

Training is not just showing an employee how to tighten a nut, turn a screw, or set up a machine. Training is analyzing a job, breaking the job down into simple tasks, and showing each employee how to do the job and how to think for himself.

When To Start

Start your training program with the boys who unload the packing cases from the box cars. Show them how to lift without straining their backs. Reduce the grade of any ramps that hand trucks must be pushed up. Show the employees how to keep the truck wheels oiled.

Replace hand trucks with power trucks when possible—and train the employees to handle them! Make the job easier whenever possible.

Study Your Training Needs

If you're on staple-rayon fibers, study your opening-room processes. Find easier ways to do the work, arrange the machines to eliminate extra walking, and show your employee the best methods of doing his work.

Check your card grinders. Find the cards that give the least trouble and make the best sliver after they are ground and set, and find the man who has ground and set them. Use his methods to train the other employees who must do the job.

In the drawing, roving, and spinning processes, train the operators to splice correctly. Look around for an operator who is able to run his or her job with little effort and who never has bad work traced to them. Study this operator's methods, and have him or an instructor train the other operators.

Train Your Fixers First

Fixer training is of more importance than operator training. An operator may splice every broken sliver incorrectly in drawing or piece each broken end incorrectly in spinning; but a fixer, through lack of skill, may set the machine incorrectly or let the machine get out of adjustment and multiply the number of broken ends.

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FILLING CONTROL In Weaving Synthetic Yarns

No problem in the manufacture of synthetic-fiber cloth is greater than that of filling control at the loom. Each style of cloth and each type of fiber demand special attention for loom settings. Planned style settings to control the filling yarns will eliminate—

- ✔ **Slack picks**
- ✔ **Tight picks and stretched filling**
- ✔ **Broken selvage ends and broken filling**

By RICHARD B. PRESSLEY, Assistant Editor, TEXTILE WORLD

NO OTHER PROCESS in the synthetic-yarn weaving plant is more important than the handling of filling yarns at the loom.

Good filling yarns can be ruined and second-quality cloth made by poor filling settings at the loom. On the other hand, if properly developed loom settings are used to protect the filling, poor yarns can often be made into first-quality cloth.

Dynels, Dacrons, Orlons, nylons, filament-rayon fibers, and various blends of spun-rayon fibers are often run in the same weave room on the same type of looms. Filling control is then a big problem.

Slack Picks—How To Stop Them

The most common filling defect in synthetic cloth is slack picks or kinky filling. To prevent slack picks:

1. Check the shuttle gently

Reduce the power on the picker stick by raising the power strap or the pick arm. If the power strap is below a horizontal line from the pick arm, the shuttle will not check gently. It may be necessary to overhaul the picking motion to raise the power strap.

On Draper looms, the pick-cam toe, the pick ball and stud, the short and long lugs, and the pick shaft and bearings may have to be replaced.

On C&K looms, the picking motion may have to be completely rebuilt. Erratic shuttle boxing can be caused by worn lugs, sweep sticks, and picking rolls and by split picking-roll arms, picking shoes, and picking shaft and shaft stands.

2. Box the shuttle

Set the binders and the binder springs so that the shuttles can be pushed into the shuttle box easily. Too tight shuttle boxes will result in erratic shuttle boxing at the slightest temperature or humidity change.

3. Set the protector motion

Shuttles cannot be boxed accurately and consistently if the protector motion is worn or is set improperly.

Replace worn protector-motion parts on Draper looms—frogs, rod, bearings and caps, and fingers. On C&K looms, replace bearings and caps, knock-off levers, tension springs, rod, and fingers.

The protector motion should be properly set. Minimum spring tension should be used. The finger clearance must be correct, and the fingers must not lock the binders when the rod is against the stop.

4. Set the checkstrap

If the picking motion throws a gentle shuttle, if the binders are set to box the shuttle loosely, and if the protector motion is in good mechanical condition and properly set, the checkstrap will box a shuttle accurately with little effort, and slack picks will not be made from mechanical faults.

5. Time the harness crossing

On filament yarns, the standard harness crossing is from ¼ in. before front center to ¼ in. past front center. This setting locks the pick in the cloth before the shuttle has time to rebound in the shuttle box. A crossing of ¼ in. past front center is better for most filament-rayon weaves.

The dobby knives must be divided accurately, since the harness-crossing time should be the same when the shuttle is in the shuttle box at the drive end and at the head end of the loom.

Blended spun-rayon suitings with decorative filling checks of filament-rayon yarns are often hard to weave without slack picks at the decorative check.

If the harnesses are set to cross at the regular spun-rayon setting of 2 in. before front center, the filament yarns will kink; and if the harnesses are set to cross near front center to prevent slack picks in the filament yarns, the spun-rayon warp ends will break.

On a combination weave of this kind, care must be taken to wind the filament yarns tightly on the bobbin with a long traverse stroke on the quiller.

The harness crossing should be set to favor the spun-rayon warp yarns.

The shuttle must be furred and the eye tension set to control the filament yarn.

6. Condition the filling

Lively filling—filling that contains a lot of static electricity—cannot be controlled at the loom.

All filling should be conditioned before it is taken to the weave room. Steam chambers with automatic controls are usually used for filling conditioning. A steaming period of 15 min. is often adequate to condition filling properly.

Filling pinboards should not be left on the loom over the week end. The last shift that is operating before a week-end shutdown should let the pinboards on the loom run empty. Early Monday-morning steaming and replacement of filling should precede the starting of the first shift.

Tight Picks—the Second Problem

Stretched filling or tight picks can be caused by faulty mechanical settings or by excessive shuttle tension at the shuttle eye and at the shuttle fur.

Too much picker-stick power will cause tight picks. When the shuttle checks harshly in the shuttle box, the filling end loops itself around the hairs of the shuttle fur, and the filling is stretched as it is pulled from the fur.

Although slack picks are often

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How One Mill Positively CONTROLS FILLING at the Loom

This mill realizes the importance of filling control at the loom. The quality of the cloth shows that a filling-control system pays its way. In addition, by-product benefits show that shuttle inspection—

- ✔ **Permits the running of larger filling packages**
- ✔ **Makes reed replacement infrequent**
- ✔ **Increases the life of shuttles and loom leathers**
- ✔ **Decreases the number of flagged looms**

ONE MILL ANALYZED its cloth defects and found that more than 75% of the defective cloth was caused by filling defects.

The management started a filling-control program by having the loom-fixers check the shuttles. The cloth quality was improved, but the management wasn't satisfied with the results. They bought a Tension-Rite instrument from J. Raymond Fish, Sr., 1123 Romany Rd., Charlotte, N. C., and started a filling-control program. Trained employees were used to operate the instruments.

Here's Their System

A girl on the first shift and another girl on the third shift operate the instruments full time.

The operator starts at the corner of the weave room, goes down each alley, and checks the looms one by one. On Draper looms and C&K bobbin-changing looms, the looms have to be stopped to check the shuttle. On C&K S-3 shuttle-changing looms, the shuttles can be checked

THE TENSION-TESTER OPERATOR stops a Draper loom and examines the shuttle for defects such as washboard marks, crooked grips, and rough places.

SHUTTLE TENSION IS MEASURED by a dial that shows the exact tension in grams. The removal of the filling from the shuttle simulates exact loom conditions.

A RUNNING RECORD is kept on each loom to show when the shuttles were checked. If major shuttle defects are found, the loom is flagged and the loomfixer fixes the loom.

THE SHUTTLE-SHOP OPERATOR sets the tension on shuttles as part of his job. He sets the tension by a chart that shows the tension setting for each style of cloth.

LOOMFIXERS USE THE INSTRUMENT to check the shuttle tension when looms are flagged for slack picks, tight picks, broken filling, and other causes.

	Type of Yarn	Shuttle Tension (Grams)
S-3 looms Filling withdrawal speed 240 yd. per min.	75 dull acetate	8 to 10
	40/13 nylon	14 to 15
	75/30 crepe	8 to 10
	100/40 crepe	8 to 10
	150/40 crepe	10 to 12
	100/2 crepe	14 to 16
	150/40 dull acetate	10 to 12
	75/45 Bemberg	14 to 15
	200/40 dull acetate thick & thin	8 to 10
S-6 looms Filling withdrawal speed 270 yd. per min.	200/40 dull acetate thick & thin	6 to 8
	150/40 crepe	6 to 8
	100/40 crepe	6 to 8
	150/90 Bemberg thick & thin	3 to 5
	30/4 spun	13 to 15
	150/38 black acetate	6 to 8
	450/114 white acetate	10 to 12
	30/2 Frieda	8 to 10
Cam & dobby Draper looms Filling withdrawal speed 250 yd. per min.	150/90/0 Bemberg	8 to 10
	75/20/5 acetate	5 to 7
	75/30/30 voile	6 to 8
	18/1 spun	3 to 5
	150/40/3 dull acetate	8 to 10

CORRECT SHUTTLE TENSIONS for all styles of cloth are shown by charts. Withdrawal speed of the tension tester is usually set at 25% above that encountered in the loom.

and defects corrected without stopping the loom.

When the loom is stopped, the shuttle is removed from the shuttle box and inspected for washboard effect, rough places, loose screws, and bobbins out of alignment. Major shuttle defects are corrected immediately by the shuttle-shop employee. Looms that are making washboard shuttles or rough shuttles are flagged by the operator of the tester and are fixed immediately by the loomfixer.

Shuttles that are in good condition are placed in the testing instrument, and the filling is adjusted. A chart on the instrument shows the amount of tension that is to be run on each style. The operator sets the tension to the desired friction setting.

After the tension is adjusted, the operator replaces the shuttle in the loom, restarts it, and moves on to the next loom. More than 200 single-shuttle looms and over 450 shuttles on S-3 looms are checked each shift. All the looms in the weave room are checked at least once each week.

The weave-room overseer is given each day's report of looms that are checked. He personally checks each loom that shows washboard shuttles or unnecessary shuttle wear.

Since constant attention is given to the shuttle tension, the mill has been able to increase the length of the bobbins in the shuttles and also to increase the diameter of the filling on the bobbins. With the positively controlled filling tension, the larger filling packages are run with good results.

As an example, 9-in. quills, wound to 1-7/64-in. dia. on 60-turn S- and Z-twist yarns, are run on S-6 looms.

Seconds have been greatly reduced at this plant—and the weave-room supply cost has been reduced since filling control has become a daily routine procedure.

PLANT L 3 — STANDARD SHUTTLE CHECKUP

DEFECT	Loom	Loom	Loom	Loom	Loom	Loom	Loom	Loom
Bad Washboard	1724							
Thin Back Wall								
Exposed Bolt								
FUR — Badly Worn								
FUR — Loose or Glue	725							
FUR — Cut near Eye								
SHUTTLE — Damaged								
SHUTTLE — Too Short								
SHUTTLE — Tapebound								
EYE — Cracked Point	13-14	12-14	15-13	14-13	13-13	12-12	14-11	11
EYE — Missing Point								
EYE — Loose & Misc.								
PICKS — Bad								
PICKS — Loose or Tight								
SPRING — Loose								
SPRING — Crushed	6 bn	KB no	B no	KB no	KB no			
Unnecessary Wear	1727	1727	1732	1733	1734			
Thread Groove								
Miscellaneous								
TALLY — From Loom			By		By		By	By
TALLY — To Loom			EC					

THE RECORD OF A DAY'S WORK shows that 457 shuttles were checked on 164 S-3 looms. One loom had bad washboard shuttles, and five others had shuttles worn unnecessarily. The tension was corrected on 164 shuttles.

Handling Synthetics on The WORSTED SYSTEM

By **FRANCOIS E. CLEYN,** Consulting Editor, TEXTILE WORLD

THE PROCESSING OF SYNTHETICS on the worsted system has become routine. Most mills are familiar with the advantages and disadvantages of the various worsted systems, and a few principles now appear outstanding.

Synthetic blends are at their best when a minimum of twist is used. The handle of a blended cloth can be ruined by too much twist, and this excess twist is particularly important in drawing, where more-even drafting can be obtained without twist.

Most synthetic fibers can be top dyed. Usually, dyeing of synthetics is more expensive than dyeing of wool, with the main difficulty in the drying. All synthetics are hard to process with even a slight amount of twist, but nylon is impossible to run with the slightest amount of twist on a gill box after dyeing.

It is important to place tops on a turning table behind the backwasher instead of running the balled tops from the floor. The speed of modern backwashers has to be cut down considerably to insure successful operation.

Recombing is important and sometimes indispensable in wool-and-synthetic blends. Properly blended fibers make dyeing in yarn or piece form much easier.

The card and the comb are still the two best mixing machines available. Few worsted mills are integrated from combing so recombing is often the only opportunity for proper fiber blending.

Dope-dyed synthetics make it possible to use a dyed synthetic top in sufficient primary shades so that, with the addition of dyed wool tops, adequate shade ranges can be produced. The method of using dope-dyed synthetic tops is cheaper and generally more successful than top dyeing.

Dyeing synthetics in staple form is more economical than top dyeing but is generally not done because combing facilities are usually lacking. Combing plants have hesitated to run dyed stock with white. Generally speaking, each synthetic fiber requires considerable research in each operation before the most satisfactory methods can be worked out.

Some synthetics are very sensitive to humidity—particularly in the dyehouse where humidity runs high. A wool-and-synthetic blend can easily be spoiled by uneven drafting caused by excessive humidity.

Pin drafters and all other gill boxes built to handle fine slivers are ideal for the handling of wool-and-synthetic blends.

The Acumeter makes it possible to control the addition of oil, which is very important. Some synthetics, particularly nylon, are difficult to process without the addition of antistatic oil, and a fraction of a percent of oil often makes the difference between good and bad running conditions.

All synthetic blends can usually be spun on most standard worsted finedrawing and spinning machinery. Twists used are usually 10 to 15% below those that would be used for the same count of worsted yarn.

Handling Synthetics on The WOOLEN SYSTEM

By **GUSTAV ZELLNIK,** Consulting Editor, TEXTILE WORLD

PROPER SELECTION of synthetic fibers with regard to denier, staple length, and strength is the key to successful processing on the woolen system—whether you're making all-synthetic yarns or wool-synthetic blends. A small difference in the fiber diameters won't give any trouble and is sometimes desirable, but major differences should be avoided.

Apply Emulsions With Care

Utmost care must be taken in using emulsions. Good results have been achieved by first emulsifying the wool and then blending in the synthetic fiber. In such a procedure, the synthetic fiber takes the emulsion from the wool and becomes spinnable without having the emulsion directly on its surface. This method gives an even distribution of the emulsion and prevents piling-up of short synthetic fibers when they are hit directly by the emulsion.

Such piling might be compared to what happens in the making of cotton-wool blends. When cotton is directly sprayed with emulsion, the cotton rolls together, and the yarn made out of such blends looks quite neppy because the cotton should not be wet. Sometimes when cotton bales are brought into the mill during a rain, the cotton is not usable for blending with wool for the same reason. For 100% synthetic fibers to be spun into yarn on the woolen system, use less emulsion than you would for wool.

Vary Staple Length and Denier

Good results have been achieved by using a small percentage of fibers of various denier counts and staple lengths. The following blend is a good example:

Suppose we are using, for a 100% synthetic yarn, a 3-den., 3-in. staple. Good results have been achieved by having the bulk of the blend (80%) of 3-den., 3-in. staple and the balance of lower and higher deniers (10% of 2 den. and 10% of 5 den.) with shorter and longer staple length (5% of 1½ in., 5% of 2 in., 5% of 4 in., and 5% of 5 in.). The advantage here is that we achieve a better interlocking of the fibers, similar to wool where the micron count and the staple

length of the fiber are also slightly different.

When blending is done properly, half of the troubles are solved as far as the manufacture of yarns on the woolen system is concerned.

Card Speeds and Settings Changed

Carding itself does not lead to difficulties on the woolen system. Just make sure that the card is not driven too fast. Of course there is a difference in setting the machine, depending on the fiber. Vicara, for instance, because of its low tensile strength, has to be carded more slowly than nylon. The experienced carder, in cooperation with the spinner, finds out soon enough about correcting any hasty action on the woolen card.

In the running of blends of synthetics and wool or 100% synthetics on woolen cards, proceed very slowly until the first yarn is spun on the mule or frame. Then decide if your draft is satisfactory and whether the tensile strength is sufficient for the end use of the yarn.

Drawing Coefficient Bears Watching

Yarns made out of 100% synthetic fibers, as contrasted with all-wool yarns, have a different drawing coefficient, which depends on the stretching properties and tensile strength of the individual fiber. With blends made out of wool and synthetic fibers, do not figure on the drawing coefficient of the wool, but on the drawing coefficient of the synthetic fiber; otherwise the interlocking of the fibers as well as the tensile strength of the yarn will definitely suffer.

If, on the other hand, the stretching properties of the synthetic fiber are greater than those of the wool, then we have to reverse the drawing coefficient.

This requirement illustrates that with synthetics on the woolen system, card production may go down in some cases as compared with production on some all-wool blends, where we sometimes can draw up to 50% of the roving.

Processing Synthetics on The WOOLEN SYSTEM

By **ROBERT A. SMITH,** Textile Research Dept., American Viscose Corp.

Basis of Card Settings

The four sets of card settings in this article are based on 5.5-den. fibers. For 3.0-den. fibers, the speed of the workers should be increased 20 to 30% to give more carding action. And 3.0-den. or finer fibers usually require a three-card set. For fibers coarser than 3.0-den., a two-card set is ample if you're running 100% synthetics. If you have wool blends, you'll have to judge how much carding the wool content will need.

Picking Should Be Light

All of the synthetic fibers come to you perfectly clean and need none of the operations of dusting, burr picking, etc. The picking itself should be of the mildest. The synthetic stocks should be just shaken to disturb the compactness created by baling if you are running 100% of any one synthetic fiber or a blend of synthetics only.

A well-blended yarn depends upon a very fine uniform distribution of individual components throughout the yarn. A lot of people make a mistake in feeling that this fiber distribution should be achieved at the picker. The card serves that purpose. Picking should be just thorough enough to insure a uniform mixture of the various components, but not necessarily an intimate, fiber-by-fiber mixture.

The simplest way to be sure that the stock is not overpicked is to employ two types of pickers. The first, the type usually recommended for synthetics, is equipped with straight pins that resemble nails. The straight pins are so much more gentle and give sufficient opening on synthetic fibers. The second type should only be used for the wool content or a blend containing wool. It is best not to process synthetics on this type of picker unless they are in combination with wool.

In the blending with wool, process the synthetics on a synthetic picker and do not add any fiber lubricant. The wool content should be separately picked on the wool picker and the fiber lubricant added on this first pass. Each component will then be open, fluffy, and ready for the actual blending. Note that both stocks have been given one preliminary picking—an important procedure because it means that both stocks are in the same relative state of openness. When the blend is put through any sort of hopper feed involving a spiked apron, the stock that is less open or that contains larger particle sizes will be picked up in heavier weight by the spikes of the apron. This selective pickup by the spiked aprons will nullify all the care that has been exercised in weighing out the components. The same care should be used in blending synthetics with wool as is used in normal blending operations with wools of different colors.

Put all synthetics through the synthetic-type picker. The sequence of operation is: pick each synthetic separately, blend, and pick again. This picking is quite enough, especially if a Truslow blender is employed. Certain blends that contain very small percentages of one component may need an additional picking to be sure that the distribution of this small quantity is more uniform. This type of blend will also call for a three-card set rather than a two-card set. If 100% of any one synthetic is to be carded, one picking is all that is needed. This situation is particularly true of the newer fibers.

Watch Your Fiber Lubricants

It is customary to add some form of fiber lubricant to viscose or acetate staple, with one important exception. In the making of carpet yarns, no lubricant except water should be applied to any fiber, natural or synthetic, or the carpet will have extreme soiling tendencies.

Since the synthetics are picked separately (the synthetic with the addition of no lubricant whatever) the

Based on a paper delivered at Lowell Textile Institute during a recent summer course in woolen carding and spinning.

Card Settings for Synthetics on a Whitin Woolen Breaker Card

	Diameter (in.)	Circum. on wire (in.)	Wire Number	Foundation	Gauge Setting	Speed (rpm.)	Speed (in. per min.)
Feed rolls	2 5/8	9.82	Metallic	4 threads interlocking	28	1	9.82
Lickerin	9 7/16	31.42	Metallic	4 threads interlocking	28	25	785.50
Lump roll	4 1/4	14.92	Metallic	10 threads	24	25	373.00
Breast cylinder	25	79.32	Metallic	12 threads	28	51	4,045.32
1st stripper	3 1/8	10.60	Metallic	12 threads all, hardened	28	128	1,356.80
1st worker	6 3/8	20.81	Metallic	12 threads points,	28	7.5	156.07
2nd stripper	3 1/8	10.60	Metallic	12 threads surface	28	128	1,356.80
2nd worker	6 3/8	20.81	Metallic	12 threads wind	28	7.5	156.07
3rd stripper	3 1/8	10.60	Metallic	12 threads	28	128	1,356.80
3rd worker	6 3/8	20.81	Metallic	12 threads	28	7.5	156.07
Tumbler	14	46.72	24/30s	D. C. 6-ply Flexifort	30	112	5,232.64
Cylinder	60	191.21	26/30s	D. C. 6-ply Flexifort	—	72	13,767.12
1st stripper	2 3/4	11.39	26/30s	D. C. 6-ply Flexifort	28	360	4,100.40
1st worker	8	27.88	26/30s	D. C. 6-ply Flexifort	28	7.5	209.10
2nd stripper	2 3/4	11.39	26/30s	D. C. 6-ply Flexifort	28	375	4,271.25
2nd worker	8	27.88	26/30s	D. C. 6-ply Flexifort	28	7.1	198.64
3rd stripper	2 3/4	11.39	26/30s	D. C. 6-ply Flexifort	28	360	4,100.40
3rd worker	8	27.88	26/30s	D. C. 5-ply Flexifort	28	7	195.16
4th stripper	2 3/4	11.39	26/30s	D. C. 6-ply Flexifort	28	360	4,100.40
4th worker	8	27.88	26/30s	D. C. 6-ply Flexifort	28	6.8	188.90
5th stripper	2 3/4	11.39	26/30s	D. C. 6-ply Flexifort	28	360	4,100.40
5th worker	8	27.88	26/30s	D. C. 6-ply Flexifort	28	6	167.28
6th stripper	2 3/4	11.39	26/30s	D. C. 6-ply Flexifort	28	360	4,100.40
6th worker	8	27.88	26/30s	D. C. 6-ply Flexifort	28	8	223.04
Fancy stripper	1 7/8	9.03	26/30s	D. C. 6-ply Flexifort	28	620	5,598.60
Fancy	9 3/4	38.48	26/28s	Low-bend leather (pressed point 3R. 3T. 3N)	—	520	20,009.60
Fancy stripper	2 3/4	12.17	30s	6-ply cotton	24	620	7,545.40
Doffer	36	115.84	26/30s	D. C. 6-ply Flexifort	28	7.8	820.26
Dickey	3 3/8	14.53	30s	6-ply cotton	34	7.8	126.00
Doffer comb	—	—	—	—	30	1450	—

Card Settings for Synthetics on a Whitin Woolen Intermediate Card

	Diameter (in.)	Circum. on wire (in.)	Wire Number	Foundation	Gauge Setting	Speed (rpm.)	Speed (in. per min.)
Feed rolls	2 5/8	9.42	5 thread	No. 526U11	28	2.75	25.90
Lickerin	4 1/2	16.10	15/24s	Leather	30	2,240	3,864.00
Back fancy	3	15.70	28s	Leather	28	495	7,771.50
Tumbler	9 1/16	31.43	28s	Flexifort	30	175	5,500.25
Cylinder	60	190.19	30/34s	D.C. Flexifort	—	72	13,693.68
1st stripper	2 3/4	11.38	30/34s	D.C. Flexifort	30	430	4,993.40
1st worker	7	24.74	30/34s	D.C. Flexifort	30	6.8	166.99
2nd stripper	2 3/4	11.38	30/34s	D.C. Flexifort	30	430	4,993.40
2nd worker	7	24.74	30/34s	D.C. Flexifort	30	6.3	154.62
3rd stripper	2 3/4	11.38	30/34s	D.C. Flexifort	30	430	4,993.40
3rd worker	7	24.74	30/34s	D.C. Flexifort	30	5.9	145.34
4th stripper	2 3/4	11.38	30/34s	D.C. Flexifort	30	430	4,993.40
4th worker	7	24.78	30/34s	D.C. Flexifort	30	5.3	129.88
5th stripper	2 3/4	11.38	30/34s	D.C. Flexifort	30	430	4,993.40
5th worker	7	24.78	30/34s	D.C. Flexifort	30	5.1	126.79
6th stripper	2 3/4	11.38	30/34s	D.C. Flexifort	30	430	4,993.40
6th worker	7	24.78	30/34s	D.C. Flexifort	30	5	123.70
7th stripper	2 3/4	11.38	30/34s	D.C. Flexifort	30	430	4,993.40
7th worker	7	24.78	30/34s	D.C. Flexifort	30	4.9	120.60
Fancy stripper	1 7/8	9.03	30s	6-ply cotton	28	600	5,418.00
Fancy	9 3/4	38.48	28/30s	Low-bend leather (pressed 3R. 3T. 3N.)	—	510	19,624.80
Fancy stripper	2 3/4	11.78	30s	6-ply cotton	24	600	7,068.00
Doffer	36	115.82	30/34s	D.C. Flexifort	28	6	694.92
Dickey	3 3/8	13.74	30s	6-ply cotton	34	8	109.92
Doffer comb	.....	.....	.....	.....	30	1,410	.....

CARD SETTINGS FOR SYNTHETICS (Continued)

Card Settings for Synthetics on a Davis & Furber Woolen Finisher

	Diameter (in.)	Circum. on wire (in.)	Wire Number	Foundation	Gauge Setting	Speed (rpm.)	Speed (in. per min.)
Feed rolls	3	9.42	Garnett No. 2LK	8 threads per in.	28	3.75	35.32
Lickerin	7	23.56	Garnett No. 3LK	10 threads per in.	30	150	3,534.00
Tumbler	10	34.55	Ang. 32s	5-ply rubber face	30	215	7,428.25
Cylinder	60	190.85	30/34s	6-ply felt face	—	75	14,313.75
1st stripper	2 13/16	12.89	30s	6-ply felt face	28	360	4,640.40
1st worker	8	27.49	30/34s	6-ply felt face	28	6.8	185.55
2nd stripper	2 13/16	12.89	30s	6-ply felt face	28	360	4,640.40
2nd worker	8	27.49	30/34s	6-ply felt face	28	6.3	171.81
3rd stripper	2 13/16	12.89	30s	6-ply felt face	28	360	4,640.40
3rd worker	8	27.49	30/34s	6-ply felt face	28	6	164.94
4th stripper	2 13/16	12.89	30s	6-ply felt face	28	360	4,640.40
4th worker	8	27.49	30/34s	6-ply felt face	28	5.9	161.50
5th stripper	2 13/16	12.89	30s	6-ply felt face	28	360	4,640.40
5th worker	8	27.49	30/34s	6-ply felt face	28	5.8	158.06
6th stripper	2 13/16	12.89	30s	6-ply felt face	28	360	4,640.40
6th worker	8	27.49	30/34s	6-ply felt face	28	5.6	154.63
7th stripper	2 13/16	12.89	30s	6-ply felt face	28	375	4,833.75
7th worker	8	27.49	30/34s	6-ply felt face	28	7	192.43
Fancy	9 7/8	38.87	30s	Leather	—	510	19,823.70
Fancy stripper	2 13/16	12.89	30s	D.C. Flexifort	24	515	6,638.35
Doffer	36	118.59	32/36s	6-ply felt face	28	6	711.54
Dickey	2 3/16	12.89	30s	D.C. Flexifort	34	10	128.90
Doffer comb	.....	.....	.....	.....	30	1,165	.....
Tape Condenser							
Dividing rolls	6 7/16	20.22	.....	.....	24	31	626.82
Aprons	.....	24.50	.....	.....	24	36.7	900.00
Eccentric	.....	.....	.....	.....	—	320	.....
Spool drums	6 3/4	21.20	.....	.....	—	45.3	960.00

wool should carry all the lubricant on the initial application. The viscose or acetate will pick up the emulsion from the wool without becoming thoroughly soaked. Wet rayon is not only weakened, but it forms neps more easily. Wet rayon becomes matted, and picking and carding tends to cause considerable fiber breakage in opening up these matted sections. The emulsion should be made up of 40% oil and 60% water. On 35% wool blends use 12 qt. per 100 lb. of wool; on 50-50 blends use 11 qt. of emulsion; and on 65% wool blends use only 10 qt. per 100 lb. of wool.

Wool content below 35% will not carry all the emulsion that may be needed without becoming overly wet. In this case it is necessary to put something on the rayon content as well—use straight oil on the rayon rather than an emulsion. The water content of an emulsion is the part that has a weakening effect on the rayon. Try putting on the rayon itself 1½ to 2% straight oil, based on the weight of the rayon content. Then the amount of emulsion put on the remaining wool portion should be adjusted so that the over-all quantity is about equal to that previously prescribed.

The universal fiber has not yet been invented. Each of these new fibers is suitable for certain end uses, unsuitable for others. The purpose of blending is to so choose your fibers that the positive qualities of one fiber offset the negative qualities of another fiber, with the result that the end product is a more desirable piece of merchandise.

In carding 100% viscose or acetate we are faced with a situation regarding lubrication that we do not like but are forced to accept. We would like to use 100% straight oil as a fiber lubricant, but unless some water is added in the form of an emulsion, the rub motion of the card loses some of its effect. So we are forced to compromise, and we make our emulsion stronger—60% oil and 40% water—and use only 4 qt. of this emulsion per 100 lb. of stock.

As far as the other fibers except viscose and acetate are concerned, all these new fibers have been supplied by the fiber manufacturer with some sort of finsh that is intended to be sufficient lubricant for picking, carding, and spinning. Nothing must be added. Like anything new, some of these fiber finishes are better than others, and so some fibers behave better than others. But remember that there is some sort of finish on all these newer fibers. In case you are having difficulty, you should consult the manufacturer of that fiber before you

Card Settings for Synthetics on a Whitin Woolen Finisher Card

	Diameter (in.)	Circum. on wire (in.)	Wire Number	Foundation	Gauge Setting	Speed (rpm.)	Speed (in. per min.)
Feed rolls	2 5/8	9.42	Metallic	5 threads—No. 526U11	28	2.8	25.91
Lickerin	4 1/2	16.10	15/24s	Leather	30	230	3,370.30
Back fancy	3	15.70	28s	Leather	28	410	643.70
Tumbler	9 1/16	31.43	32s	5-ply rubber face	30	5,160.8	5,028.80
Cylinder	60	190.19	35s	Flexifort	—	71	13,503.49
1st stripper	2 3/4	11.38	35s	Flexifort	30	420	4,779.60
1st worker	7	24.74	35s	Flexifort	30	6.5	160.81
2nd stripper	2 3/4	11.38	35s	Flexifort	30	4,220.2	4,779.60
2nd worker	7	24.74	35s	Flexifort	30	6.3	154.63
3rd stripper	2 3/4	11.38	35s	Flexifort	30	420	4,779.60
3rd worker	7	24.74	35s	Flexifort	30	6.1	151.33
4th stripper	2 3/4	11.38	35s	Flexifort	30	420	4,779.60
4th worker	7	24.74	35s	Flexifort	30	6	148.44
5th stripper	2 3/4	11.38	35s	Flexifort	30	420	4,779.60
5th worker	7	24.74	35s	Flexifort	30	5.9	145.35
6th stripper	2 3/4	11.38	35s	Flexifort	30	420	4,779.60
6th worker	7	24.74	35s	Flexifort	30	5.8	142.26
7th stripper	2 3/4	11.38	35s	Flexifort	30	420	4,779.60
7th worker	7	24.74	35s	Flexifort	30	5.6	139.16
8th stripper	2 3/4	11.38	35s	Flexifort	30	420	4,779.60
8th worker	7	24.74	35s	Flexifort	30	6.3	154.63
Fancy stripper	1 7/8	9.03	30s	6-ply cotton	28	590	5,327.70
Fancy	9 3/4	38.48	33s	Low-band leather (3R. 3T. 5N.)	—	490	18,855.20
Fancy stripper	2 15/16	12.38	30s	6-ply cotton	26	590	7,304.20
Doffer	36	115.82	35s	Flexifort	30	5.8	665.97
Dickey	3 3/8	13.74	30s	6-ply cotton	34	5	68.70
Doffer comb	.....	.....	.....	.....	30	1,360	.....
			Tape Condensers				
Dividing rolls	6.50	20.42	.....	.....	28	30.	612.60
Aprons	.....	27.25	.....	.....	24	32.3	780.00
Eccentric	.....	.....	.....	.....	..	290	.....
Spool drum	6.50	20.42	.....	.....	..	38	780.00

add any other type of lubricant to it. Some of the customary fiber lubricants react with some of these chemical finishes, and the result is worse than either of the lubricants alone. Work closely with the original maker of these new fibers. All of them have technical staffs and will be glad to help you with your problems.

Most of these new fibers, with the exception of viscose and acetate, carry a very low moisture content, and some of them are almost water repellent. Thus they are apt to generate static, and that's one of the reasons why the fiber manufacturers put on their own type of fiber lubricant. Most of these lubricants contain an antistatic agent. If you are going to embark on any large program of evaluating the newer synthetic fibers, equip your cards with static eliminators. Humidity should be kept about 60 to 65%. All these precautions are suggested particularly if you are going to run any 100% synthetic fiber through woolen cards. With wool blends, this problem is not present.

Here Are a Few Carding Tricks

Loftiness and bulkiness of newer fibers and blends may cause a little feeding trouble in the weigh pan and on the first feed apron. Make more frequent and lighter drops and speed up the feed rolls to compensate for the lighter feed. Some of these newer fibers in 100% form are very bulky. It is for this reason that we minimize the picking.

At any point in your carding where a broad-band feed is used, you may have to watch the behavior of some of the synthetic fibers. As the broad-band feed lays the web of fibers on the feed table, some stocks have a tendency to creep in while others do not. You'll have to be sure that the outside ends are amply provided for. On 3.0-den. stock or finer it may be necessary to speed up your fancy a bit and set it about 1/32 to 1/16 in. deeper.

In connection with setting a fancy, how many of you know this trick to eliminate the hit-or-miss method of listening to the wire tone as the fancy engages the cylinder wire? Set the fancy to the cylinder with a No. 30 gauge, which measures 0.012-in. Next set the fancy into the cylinder by turning down the adjusting nut on each side exactly the same amount. On our cards the pitch of the adjusting screw is 12 per in. If you turn down one-third turn on each side, the fancy wire is set into the cylinder wire 0.016 in. By knowing the card gauge you start with and the pitch of the adjusting screw, you can set the wires into the cylinder any degree you wish and be absolutely accurate on both sides of the cylinder.

About the doffer comb on your finisher card—if lengthwise ripples show in the finisher web, you can take them out by raising the arc of the doffer comb, slowing it down a little, and adjusting the speed of tape condensers to allow a very slight sag in the web. This condition is sometimes encountered with synthetic fibers.

In general, the adjustments necessary in carding synthetics are compar-

(*Continued on page 293*)

Processing Synthetics on The COTTON SYSTEM

✓ ACETATE

These recommendations are for 3-den., 2-in. staple acetate.

Conditioning

Air conditioning or humidification of some type is needed. The atmospheric condition of the opening, picking, and carding departments should be controlled at 60 to 65% r.h. and 75 to 80° F. The spinning room should be controlled at 55 to 60% r.h. and 75 to 80° F.

Opening

It is not necessary to subject acetate staple to severe preliminary cleaning or opening. The least possible opening is desirable, and passing the stock through hopper feeders produces the required amount of opening. The open stock should be tinted, if tint is required, during opening and allowed to condition for at least 8 hr. in bins.

The storage bin should be humidified so that the stock will not dry out.

Picking

The Kirschner or carding-type beater should be used. Only two beater sections are needed, and beater speeds are 700 to 800 rpm. Fan speeds are from 1,600 to 1,800 rpm. Top and bottom split-lap preventers are quite important in producing good laps.

Carding

Either the flat-top or roller-top card may be used for processing acetate staple, depending upon the cleanliness of the yarn desired. The flat-top card is often preferred. There is very little change in the different card settings used in processing acetate, rayon, cotton, or blends of these fibers. The most important change for carding acetate staple is the use of rayon lickerin wire in place of cotton lickerin wire. Rayon wire has teeth with less pitch to allow the fiber to transfer to the cylinder more readily.

Lickerin speeds from 200 to 450 rpm. are being used for 3-den., 2-in. acetate staple with satisfactory results. Speeds of other moving parts of the card are standard.

On the cotton system, acetate can be handled without trouble on the various long-draft drawing, roving, and spinning systems. It has been found advantageous to use synthetic coverings on top rolls in place of steel, leather, or cork and to use synthetic aprons in the various drafting operations. Slightly more weight should be used on the top rolls to improve the quality of drafting. The latest long-drafting models are usually equipped with heavy weights for processing acetate and other synthetic fibers.

✓ ACRILAN

Acrilan acrylic staple is readily adaptable to all existing cotton-system machinery. With the few exceptions listed below, Acrilan processes with essentially the same speeds and settings that are now used on rayon staple. Therefore, this article considers the essential changes required for Acrilan.

Opening, Blending, and Conditioning

Acrilan staple will readily blend with any of the present man-made or natural fibers. In most of these blends, there has been no processing difficulty.

The fiber, shipped in paperboard bales of approximately 400 lb. net weight, contains 1 to 2% moisture. The staple is supplied with a finish content of 1 to 1.5%, and this finish is a very effective antistatic agent, if the staple is properly conditioned before processing. It is desirable to "bloom" the staple and allow it to condition for 24 hr. before picking. A relative humidity of 50 to 55% at 75 to 80° F. has proved satisfactory for conditioning.

If several bales are to be processed, it is desirable to cross-blend as many bales as possible to assure uniform processing. The staple opens readily and does not require any harsh opening or beating action. The standard hopper feeder is recommended. All cotton beaters—such as vertical openers, gyrator cleaners, etc.—are bypassed.

Tinting

Most of the water-soluble acid-dyestuff tints are applicable to Acrilan. However, before any sizable amount of staple is processed, a small sample should be tested to determine whether the tint is fugitive. Before any tint is applied, the producer of the particular tint should be contacted for suggestions and recommendations. Absolutely no oil should be used on the staple.

Picking

Both one- and two-process pickers have proved satisfactory. Due to the bulky nature of the staple, it is desirable to reduce the weight of stock at each beater-section feed so that picker cages will not be overloaded. Where pickers with a blending-reserve box are used, the draft on the finisher section should be reduced by about one-third.

A finisher-lap weight of 12 to 13.5 oz. will condense more readily and feed better during carding. The length of picker lap should be reduced 30 to 40% because of the bulkiness of the staple.

Paper tubes over the lap pins are preferred. Pneumatic pressure of 40 to 60 psi. is recommended for the lap-pin weighting. Standard cotton weighting on the calender rolls is best, and a split-lap eliminator is desirable. It is extremely important that careful adjustments be made for fan speeds and drafts so that the stock will be directed to the upper cage of the picker.

The following speeds have been used satisfactorily for Kirschner or two-blade beaters:

Production	Picker	Speed
350 (lb. per hr.)	3-beater	660 (rpm.)
350	2-beater	800
400	3-beater	750
400	2-beater	900

Carding

It is important that the cylinder and doffer wire be kept sufficiently clean by stripping to prevent the formation of a cloudy web. The 3.0-den. and 5.0-den. staples can usually be run for 4 hr. on a standard flat-top card without a fancy or stripper before stripping is necessary. Better yarn quality is obtained by carding without a fancy or continuous stripper; however, these attachments can be used under special conditions.

A production of 45- to 50-gr. sliver at 10 to 12 lb. per hr. gives good results. The stock is very bulky and may present some difficulty in passing through the coiler-tube gear, if the sliver is too heavy. A 1¼-in. coiler-tube gear should be used.

Spring pressure has been used on the calender rolls to increase the condensation of the sliver, but care should be taken not to use enough pressure to core the material. Spring cans are recommended for carding and drawing to assist in the rapid build-up of the stock against the face of the coiler-tube-gear plate and in pulling the bulky sliver through the tube gear.

The lickerin should be covered with #1 rayon-type wire, and the lickerin speed should be held in the range of 300 to 375 rpm. in order to eliminate any damage or tendency to load. There should be no evidence of static if the stock has been properly conditioned and a relative humidity of 50 to 55% is maintained with a temperature of 70 to 80° F.

Drawing

The drawing-sliver weight should be held to 50 gr. or less to make it easy for the stock to pass through the coiler-tube gear. Both processes of drawing should have 1¼-in. or 1½-in. tube gears, with the latter being preferred. It is sometimes necessary to adjust can-table position to allow for these larger tube gears, and here again it is suggested that spring-bottom cans be used.

Clearers must be cleaned frequently. Static is no problem if a relative humidity of 50 to 55% is maintained. Standard synthetic top rolls or leather-covered rolls are suitable. Two-process drawing is recommended.

The stock has a high degree of crimp; and, therefore, proper tension adjustment is important to prevent stretching. Standard rayon drafts, roll speeds, and settings are satisfactory.

Roving

The following twist multipliers have been used satisfactorily for 3.0-den. staple:

2.00 (hank roving)	0.95
3.00	1.0
4.00	1.05

The lay should be increased and tension adjusted to accommodate a more rapid build-up of the stock because of the bulk.

Spinning

It is necessary to reduce the yarn size or fabric construction to allow for the bulk, since Acrilan is approximately 25% more bulky than rayon spun in the same count. The best strengths and spinning properties have been obtained with a 3.50 twist multiplier for 3.0-den. and 5.0-den. staple.

The following spinning limits may be used as a guide for two-ply or filling yarns:

3.0-den., 1⅞-in.	26/1
3.0-den., 2-in.	30/1
3.0-den., 2½-in.	36/1

✓ ORLON

Opening and Picking

Since Orlon staple is opened before baling, conventional cotton openers are not required. Stock can be fed directly from the bale to the picker hopper on a Bramwell feed.

Due to the unusual bulk of Orlon, lap weight should be held to about 10 to 13 oz. per yd. and length to a maximum of 30 to 40 yd., depending upon the type of equipment.

Care should be taken that the fibers are not overworked. Fan speeds should be 1,200 to 1,700 rpm., with the fibers directed primarily to the upper cage. A split-lap preventer should be used and set as close as possible to the calender rolls. Excellent results have been obtained with Kirschner beaters (and others) at speeds of 700 to 900 rmp. (20 to 25 beats per in.).

Atmospheric conditions of 80° F. and 55 to 60% r.h. are considered optimum for the picker room.

Carding

Settings and speeds that are normal for rayon are satisfactory for both flat and roller cards. Fancy rolls are normally unnecessary. Webs and slivers are quite free from neps.

Due to the bulk of Orlon, card-sliver weight should be held at 45 to 50 grains per yd. Production rates of 10 to 12 lb. per hr. are common.

Rayon-type lickerin wire has generally given excellent performance, and although cotton lickerin wire has been satisfactory for 1½-in. staple, it is generally best to avoid the use of sharply hooked wire.

A trumpet size of 0.15 in. usually prevents choking of the coiler-head due to the bulk of Orlon. If necessary, spring-bottom cans or pillows in the top of the sliver cans will eliminate this problem.

Satisfactory card-room conditions are about 80° F. and 55 to 60% r.h.

Drawing

Two drawing operations are usual. Good performance has been shown on all common types of frames.

Numerous types of top rolls have been used. Individual mill preference should be exercised in this respect.

Breaks in sliver or jamming in coiler heads can again be remedied by reducing sliver size or using spring bottoms or pillows in the sliver cans. Use sizes of 0.135 in. to 0.15 in.

Roll settings of ⅛ to ¼ in. over staple length (front to back) usually provide good control.

If the frame is well grounded, no static should be present at 80° F. and 55 to 65% r.h.

Roving

Drafts of 5 to 18 on all common types of frames have given good roving performance.

Roving twist multipliers should be in the range of 0.55 (for 4½-in. staple) to 0.09 (for ½-in. staple). Too much twist will produce a hard roving that will cause uneven drafting.

Roll settings of ⅛ in. to ¼ in. over staple length (front to back) are generally satisfactory. Front-roll speeds used on rayon are satisfactory.

Static should not be present at 80° F. and 60 to 65% r.h.

Spinning

Excellent spinning performance has been obtained at drafts of 6 to 20 on standard frames.

Conditions of about 80° F. and 60 to 65% r.h. should eliminate any static problems.

Due to the high surface friction of

Orlon, yarn numbers with a relatively lower number of fibers per cross section can be spun. With 3-den.-per-filament, 1½-in. stock, yarns as fine as 30/1 can be spun; 32/1 and 34/1 can be spun with 2-in. staple, while 40/1 is possible with 2½-in. stock.

Allowance for the bulk of Orlon must be made in spinning. The fiber permits spinning about 25% finer than other fibers for yarn of equal diameter. Because of the influence of twist, fabric construction, and finishing effects, the exact bulk allowance should be determined for each individual case.

For weaving yarns, a twist multiplier of 3.5 to 4.0 gives a good balance of strength vs. loft and bulk. For knitting yarns, a twist multiplier of 2.5 is suggested.

✓ X-51

Picking

A single-process picker with a Kirschner beater running at 925 rpm. is recommended. A fan speed of 1,160 rpm. appears to be ample for this light fiber. Lap weight should be 12 to 14 oz. per yd. Laps should be handled carefully and paper-wrapped.

Carding

Settings for X-51 are about the same as for cotton, although adjustments can be eased for gentler action. A fancy roll, set with a surface-arc contact of 1¼ in., should be used.

Drawing

To process a 1½-in. staple on a Whitin four-roll frame, the graduation in roll settings should be ¼ in. The front roll is set 1⅜ in. from the second roll; the back setting is 2⅛ in.

The same graduation is recommended for a Whitin three-roll frame. In this case, the front-to-second-roll setting is 2¾ in., and the back setting is 3 in.

Front-roll speed for either type of frame is 2,880 rpm. Top rolls are synthetic, Type J-490. The bottom rolls are metallic, fluted.

Roving

Low twist multipliers are the byword for X-51 because of the fiber's bulkiness. Settings conform in large measure to those outlined for rayon but must be determined by practice. [TW, May, '52, p. 120].

Spinning

X-51 staple produces a yarn that is larger than you're used to. Low twist multipliers are recomended. Fabric constructions and yarn sizes must be watched carefully, or over-construction will result.

✓ DACRON

To date, only very limited poundages of Dacron fiber have been processed into 100% Dacron yarns on cotton equipment. A somewhat greater amount has been processed in various rayon blends. Experience so far is almost entirely confined to 3-den., 2½-in. fiber.

Within the scope of this limited experience, it can be said that excellent yarns in the 30s range have been spun. In general, the processing has not differed too greatly from normal rayon practice for cotton-system spinning.

Due to the experimental nature of Dacron, improvements are being realized almost daily in the processing of this apparently readily spinnable fiber, and it is impossible at this time to present a precise definition of an optimum yarn process.

Several general comments can be made:

Static

Like most of the newer synthetics, static has not been completely overcome by the use of finishes added by the producer. Humidities in the range of 55 to 70% appear to be required, with dry-bulb temperatures in the range of 80 to 85° F.

Tensions

Dacron, both in fiber and yarn, can be elongated or cold-drawn in processing. Overworking in picking and carding and too-close ratch settings will result in an increase in fiber length and require greater ratch settings in each successive step. Excessive tensions in twisting, winding, quilling, warping, etc., will stretch the yarn and create tight ends in the fabric as a result of higher shrinkages in finishing of the stretched yarn.

Resilience

This factor, which contributes wrinkle resistance to Dacron-containing fabrics, must be recognized in processing. It is easy to open Dacron excessively by too much beating that results in bulky, hard-to-handle laps. Dacron requires more open card settings in order to give the fibers greater clearances in which to work.

Mass Cohesion

This property is excellent in Dacron and insures strong slivers with a minimum of sliver breaks. Somewhat lower roving twists must be used; and, under some atmospheric conditions, the range of drafts may be limited.

✓ NYLON

General

Proper humidity control is essential for processing acceptable nylon yarns. Inadequate control will create static on one hand and tackiness on the other, each of which tends to reduce processing efficiency and yarn quality.

The most acceptable ranges appear to be from 45 to 55% r.h., with temperatures ranging from 80 to 85° F. Clean and well-maintained equipment is essential, since nylon exhibits strong tendencies to catch or draft unevenly on roll or surface irregularities.

Opening

To obtain the maximum advantage of the self-opening characteristics of nylon staple, bales should be opened 24 to 48 hr. before processing to allow the stock to blossom. Although pre-opening is not usually necessary,

any of the common cotton opening equipment may be used. Nylon stock should be loosened by hand as it is placed in the picker hopper.

Picking

Several modifications are suggested for adapting picking equipment to nylon-staple processing. Departures from what might be considered starting-point suggestions will depend in degree to the particular mill conditions.

The apron comb should be set closer to the hopper apron, and the speed of the hopper apron should be increased. Kirschner beaters with speeds in the neighborhood of 1,000 rpm. and fan speeds in the neighborhood of 1,500 rpm. have proved to be a satisfactory combination.

Increased drafts in the cages should be evaluated, and increased draft at the calender rolls and roll laps is virtually a "must" (synthetic gear trains can be purchased for the calender section).

Along with increased feed-roll settings (⅛ to ¼ in.) and the use of fringe rolls, it has been found desirable to adjust the dampers to deposit the stock on the top cage.

Lap weights should be in the neighborhood of 12 to 13 oz. per yd. Either paper-covered or tapered lap pins are recommended. The familiar technique of using several ends of roving to reduce any lap splitting can be successfully employed for nylon. Frequent lap testing is essential to assure uniformity.

Carding

Recent work performed at the School of Textiles, N. C. State College, has uncovered several promising techniques for improving carding on flat-top cards.

Drawing

Nylon staple allows roll settings to be made much closer to the staple length, so that better control is provided during drafting. Increased roll weights with reduced web tensions and smaller trumpet sizes are necessary. Spring-bottom sliver cans are helpful at the start-up. Care should be exercised to minimize tension and drag in the creel. Frequent evenness and weight tests are most essential.

Roving

Since the uniformity of creel tension directly affects roving uniformity, such variations should be minimized. Initial experiments should be restricted to moderate or low drafts until techniques are developed. Front-roll-to-package tensions should be reduced, as should the twist, to assure uniform draftability in subsequent operations. Packages should be kept as soft as possible to eliminate any unevenness as a result of relaxation effects without sacrificing package formation. Evenness and weight tests are virtually mandatory in maintaining high quality standards.

Spinning

As in roving, initial experimentation should be restricted to conventional drafts until techniques are developed. In general, the ordinary trade practices for spinning can be applied. The use of testing equipment for quality evaluation is most important for this operation because spinning experience is lacking and allows no guesswork.

Twisting

Minimum and uniform tensions must be employed. Balanced twist should be used for the relatively lively spun-nylon yarns.

✓ DYNEL

Dynel staple fiber is commercially supplied in filament sizes of 2, 3, 6, 12, and 24 den. and in staple lengths of from 1½ to 6 in. Fiber of 2- or 3-den. size and a staple length from 1½ to 2½ in. is most generally adapted to cotton- or modified cotton-system processing.

Because of its high resiliency and bulk, dynel expands to almost twice its original volume when the bales are opened; therefore, care should be exercised to prevent spilling and possible contamination with dirt or other fibers.

Conditioning

Although dynel itself has a moisture regain of only 0.4%, the finish with which it is supplied is somewhat hygroscopic and should be allowed to condition at 75 to 80° F. and 40 to 55% r.h. for 4 to 12 hr.

Opening and Blending

The fiber, as supplied, is free from dirt and impurities and has been subjected to a moderate opening action. Normally, the only additional opening process should be one pass through a blending feeder, a Fiber-Meter, or a similar hopper. The feed hopper at the rear of the picker often has proved to be sufficient.

Generally, dynel should never be processed through opening machinery containing high-speed beaters. This type of equipment is unnecessary and will tend to break good fibers and form neps. Blending of dynel with other fibers may be done by any conventional means. Good results have been obtained by the use of Fiber-Meters or blending feeders delivering to a feed table that conveys the fiber directly to the feed hopper of the picker.

Picking

Dynel may be processed on either one-process or two-process pickers. A Kirschner beater in both breaker and finisher sections is recommended. Beater speeds should be similar to those used for rayon—600 to 750 rpm. High fan speeds are desirable to produce an even, lump-free lap. Recommended settings for a typical one-process picker are:

Breaker Section	
Feed rolls to beater blade	¼ in.
Beater speed	650 rpm.
Fan speed	1,400 rpm.
Finisher Section	
Feed rolls to beater blade	¼ in.
Beater speed	700 rpm.
Fan speed	1,400 rpm.

Standard lap weights (12 to 14 oz. per yd.) may be used; but because of the loft of the fiber, laps with a total weight of over 30 to 35 lb. are too bulky for practical handling.

Some type of split-lap eliminator is usually desirable.

Maintaining the relative humidity at a minimum of 40% at 75 to 80° F. will be helpful to minimize difficulties from static electricity.

The lap should have a uniform, lofty appearance with smooth selvages. Weight variation from yard to yard and lap to lap should compare with that obtained with cotton and rayon.

Carding

Carding procedures for dynel on a flat-top card are generally similar to those recommended for other synthetic fibers. The outstanding difference will be found in the high bulk of dynel, particularly in sliver form. Because of this difference, larger trumpets may be necessary.

Some of the more important settings and speeds are:

Feed plate to licker	0.010 to 0.017 (in.)

Two Complete Organizations to Produce Dynel Yarns

Typical Organizations of Machinry, Speeds, and Settings To Produce Yarns from 2- and 3-Denier 1 1/2-Inch Dynel

	20/1 yarn from 3-den., 1 1/2-in. fiber		30/1 yarn from 2-den., 1 1/2-in. fiber	
PICKING	Whitin breaker picker with Kirschner beater	S-L finisher picker with Kirschner beater	Kitson picker with Kirschner 3-bar beater	Kitson finisher picker with Kirschner-3-bar beater
No. of beaters	One	One	Two	One
Beater speed	650 rpm.	700 rpm.	650 rpm.	750 rpm.
Fan speed	1,300 rpm.	1,400 rpm.	1,350 rpm.	1,350 rpm.
a. Feed rolls to blade	⅛ in.	¼ in.	¼ in.	¼ in.
b. Cut-off to blade	⅛ in.	3/16 in.	—	—
Size of blade	18 in.	16 in.	—	—
Production (lb. per hr.)	252	263	—	—
Split-lap eliminator	Yes—bottom	Yes—bottom	Yes—bottom	Yes—bottom
CARDING	Saco-Lowell revolving flat-top card		H&B revolving-top flat card (1905)	
Lickerin to cylinder	0.007 in.		0.007 in.	
Lickerin diameter	9 in.		9 in.	
Lickerin speed	750 rpm.		750 rpm.	
Lickerin to screen (solid)	—		0.017 in.	
Front	0.029 rpm.		—	
Bars	0.17 in.		—	
Nose	0.187 in.		—	
Feed Plate to lickerin	0.017 in.		0.010 in.	
Mote Knives to lickerin				
Bottom	No mote knives	Blank Screen	0.010 in.	
Top	No mote knives			
Lickerin clothing	#1 Rayon		#1 Rayon	
Cylinder to flats	0.015 in.		0.010 in.	
Cylinder speed	165 rpm.		158 rpm.	
Cylinder diameter	50 in.		50 in.	
Back knife plate to cylinder				
Top	0.029 in.		0.019 in.	
Bottom	0.029 in.		0.019 in.	
Front plate to cylinder				
Top	0.022 in.		0.034 in.	
Bottom	0.029 in.		0.064 in.	
Cylinder to screen				
Back	0.029 in.		0.034, 0.034, 0.034, 0.068 in.	
Front	0.187 in.		0.064	
Center	0.068 in.		0.034	
Cylinder-wire size	100s		100s	
Flat-wire size	110s		110s	
Doffer diameter	27 in.		27 in.	
Doffer speed	6 rpm.		14 rpm.	
Doffer to cylinder	0.005 in.		0.007 in.	
Doffer to comb	0.010 in.		0.022 in.	
Calendar-roll pressure	Self-weighted		Spring-weighted	
Calendar-roll trumpet size	¼ in.		—	
Grain sliver delivered	65		45	
Fancy	No		Yes	
Coiler-head trumpet size	3/16 in.		—	
Relative humidity	45% at 80° F.		45% at 80° F.	
Flat-stripping comb	0.012 in.		—	
Flat speed	0.5 - 1/3 in. per min.		1.5 in. per min.	
DRAWING	Whitin four-roll		First drawing H&B 4-roll	Second drawing S-L ¾ controlled draft
Settings	F—2 2—3 3—B S+⅛ S+⅛ S+⅜		2-10/6—1-10/16	2-10/6—1-10/16
Front-roll speed	280 rpm.			

Lickerin to cylinder 0.007
Cylinder to flats 0.010 to 0.015
Front-knife plate to cylinder
Top 0.022
Bottom 0.029
Flat speed 0.5 to 1.5 in. per min.
Doffer to cylinder
0.005 to 0.007 (in.)
Doffer to comb 0.010 to 0.015
Excellent sliver (10 to 15% variation on the Uster tester) can be produced with normal doffer and lickerin speeds. Recent work indicates that doffer speeds of 12 to 15 rpm. and lickerin speeds of 650 to 750 rpm. will produce up to 20 lb. of sliver per hour with no significant decline in quality.

A fancy roll may be desirable. No. 1 rayon-type lickerin clothing is recommended.

Stripping cycles will vary, but as much as 24 hr. or more between strippings has given good results.

Under normal conditions, waste should range from 3 to 5%. Again, relative humidity should be maintained at 40 to 55% at 75 to 80° F.

The roll-top card may also be used, with settings and speeds similar to those used on the flat card. The work-

Two Complete Organizations to Produce Dynel Yarns (Continued)

Typical Organizations of Machinry, Speeds, and Settings To Produce Yarns from 2- and 3-Denier 1 1/2-Inch Dynel

	20/1 yarn from 3-den., 1 1/2-in. fiber	30/1 yarn from 2-den., 1 1/2-in. fiber
DRAWING (continued)		
Roll size	F 2 3 B 1¼ 1 1⅛ 1⅛	Standard for machine	Standard for machine
Type of rolls		
Top	Synthetic top rolls, type J490	Synthetic	Synthetic
Bottom	Fluted	Fluted	Fluted (1)
Trumpet size	5/32 in.	—	—
Doublings	—	—	—
Draft	6	6.56	6.40
INTERMEDIATE DRAFTS			
(1) Back roll to third roll	1.35	—	—
(2) Third roll to second roll	1.76 (assuming total draft of 6)	—	—
(3) Front roll to second roll	2.50	—	—
(4) Tension draft (web)	1.02	—	—
ROVING	Whitin "C" superdraft	Saco-Lowell ⅞ controlled draft, model FSI	Howard and Bullough 4-roll
Settings	F—2 3—B S+7/16 S+5/16	2-8/16 in. 1-8/16 in.	1-10/16 in. 1-14/16 in.
Twist multiple	1.00	0.8 (Approx.)	1.00
Type of top rolls	Front: Climax ball bearing (synthetic) Second: Apron Third: Synthetic-solid Back: Synthetic-solid	Accotex covered Leather covered Accotex covered —	Accotex covered Steel Accotex covered Accotex covered
ROVING FRAME			
(1) Back draft	3.6	—	—
(2) Front draft	5.00	—	—
(3) Total draft	18	8.11	5.33
Weight fed	50 grains	45 grains	2 ends—1.5 hank roving
Hank delivered	3.00 hk.	1.5 hk.	4.00 hk.
Constants / Gears used			
Back draft	200 56	—	—
Front draft	200 40	—	—
Total draft	40,000 —	—	—
Twist	71 38	—	—
Lay	555 32	—	—
Tension	67 26	—	—
SPINNING	Whitin long draft	Saco-Lowell controlled draft	
Roll system	Casablanca	Type Z	
Size of front roll	1 in.	1⅛ in.	
Settings	F—2 2—3 2-7/32 1⅞	—	
Twist multiplier	3.25	3.00	
Draft constant	254	—	
Back draft	1.21	—	
Front draft	Depending upon total draft	—	
Draft	—	15.00	
Front-roll speed	190 rpm.	71.4 rpm.	
Spindle speed	7,560	6,493	
Traveler size	7	Round Wire 3/0	
Diameter of ring	1¼ in.	2½ in.	
Separation used	Yes	Yes	
Gauge	3½ in.	3½ in.	
Twist	—	21.05	
Draft gear	—	49 Tooth	
Twist gear	—	34 Tooth	

ers and strippers should be set 0.015 in. from the cylinder.

The web should be even, clear, and reasonably free from neps. Selvages should be smooth, and the web should show no tendency to sag or split.

Drawing

Dynel can be processed without difficulty on almost any type of drawing frame. Cushion-top rolls are generally recommended. Speeds and settings that have been used successfully are:

Front-roll speed 275 to 300 rpm.

Settings

Front to 2nd — Staple length + ⅛

2nd to 3rd — S + ⅜

3rd to 4th — S + ⅝

The relative humidity here should be maintained between 50 and 60% at 75 to 80° F. A condenser between the front and second rolls may be beneficial.

Generally, the breaker- and finisher-drawing sliver should show less than 25% variation.

Roving

Generally, any type of roving frame

Suggested Approximate Twist Multipliers (Roving)

Denier	Staple length (in.)	Less than 2.0-hk. roving	2.0- to 4.0-hk. roving	Above 4.0-hk. roving
2	1 1/2	0.80	1.0	1.10
2	2	0.75	0.95	1.05
2	2 1/2	0.75	0.90	1.00
3	1 1/2	0.95	1 05	1.10
3	2	0.90	1.0	1.10
3	2 1/2	0.80	0.95	1.05

Suggested Approximate Twist Multipliers (Spinning)

Denier	Staple length (in.)	Twist multi-plier
2	1 1/2	3.0
2	2	3.0
2	2 1/2	2.75
3	1 1/2	3.25
3	2	3.25
3	2 1/2	3.0

that will handle staple lengths of 1½ in. or more will process dynel satisfactorily with normal speeds and settings. Some change may be necessary in the lay gear because of the high bulk of dynel roving. Plastic condensers may be also beneficial. Relative humidity should again be in the range of 50 to 60% at 75 to 80° F.

Suggested approximate twist multipliers are shown in the table above.

Spinning

Any type of spinning frame on which the weighted drafting rolls may be set at ¼ in. or more above staple length will processs dynel satisfactorily. Certain adjustments in front-roll and spindle speed may be necessary. For medium counts, a spindle speed of about 7,000 to 7,500 rpm. appears to give best results.

Relative humidities should be in the range of 50 to 60% at 75 to 80° F. Twist multipliers should be somewhat lower than cotton. Suggested approximate multipliers for maximum strength are shown above.

Dynel yarn should have an even, nep-free, and–particularly when spun from 3-den. fiber–somewhat fuzzy appearance. The break factor for 20/1 yarn spun from 2-den. fiber should be at least 2,000 and for yarn from 3-den. fiber at least 1,650. Variation will generally range between 40 and 80%.

Dynel yarns in numbers as fine as 50/1 have been spun commercially from 2-den., 1½-in. fiber, and 30/1 from 3-den., 1½-in. fiber.

Winding and Spooling

Dynel can be wound to any conventional package on a precision winder at speeds equal to, or in excess of, those used for cotton or rayon. Some difficulty has been encountered in the use of drum winders and automatic spoolers at conventional speeds, principally because of yarn breakage from the high heat of friction generated in starting up the package. Present data indicates that speeds of 400 to 500 yd. per min. give practical efficiencies.

✓RAYON

By HARRY E. NEW
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The usual tendency to overwork the staple tends to lower yarn quality and strength. Don't do it.

Outlined below is a list of the machine processes and settings that have given good results, with special emphasis on points commonly overlooked or minimized in their importance under production conditions.

Conditioning

A relative humidity of 50% at a temperature of 75 to 80° F. gives ideal operating conditions at all processes from opening through spinning. These conditions are also recommended for blends. It is occasionally necessary to raise the relative humidity to 55% in drawing if static is a problem.

Recommended Drawing Settings for Staple Rayon

Four-Roll Cushion-Top Frames
(1 1/4-in. front roll)

Staple (in.)	Roll Setting 1st to 2nd	2nd to 3rd	3rd to 4th
1 1/8	1 5/16	1 3/8	1 1/2
1 9/16	1 11/16	1 13/16	1 15/16
(1 1/2-in. front roll)			
1 9/16	1 13/16	1 15/16	2 1/16
1 7/8 & 2	2 3/16	2 5/16	2 7/16
2 1/2	2 3/4	2 7/8	3
3	3 1/4	3 3/8	3 1/2

Saco-Lowell Three-over-Four Drawing
(1 1/8-in. front roll, 0.030-in. button)

	Front to 3rd	3rd to Back (Draft of 3, constant)
1 9/16	2 3/4	1 11/16
2	2 3/4	2 7/16
2 1/2	3 3/16	2 7/8
3	3 7/8	3 3/8
4	4 5/8	4 3/8
4 1/2	4 5/8	4 7/8
	(millions of pounds)	

Recommended Beater Speeds For Rayon

Production (lb. per hr.)	Beater Speed (rpm.) Three-beater picker 30 beats per in. per beater*	Two-beater picker 36 beats per in.
300	565	685
350	660	800
400	750	900
450	835	1000
500	935	1120

*Beats per inch are calculated for the Kirschner beater as a three-blade beater, since it is used as an opener rather than a cleaning device.

How To Set The Kirschner Beater

Staple length (in.)	Setting of beater to feed roll and evener (in.)
1	1/8
1 1/4	1/4
1 9/16	1/4
2	1/2
2 1/2	5/8
3	3/4

Recommended Lickerin Speeds and Reed-Plate Settings for Rayon

Denier	Length (in.)	Lickerin Speed (rpm.)	Doffer Speed (rpm.)	Feed-Plate Setting (in.)
0.75	1 9/16	165	4	0.034
1.0	1 9/16	165	5	0.034
1.25	1 7/8	165	5	0.034
1.5	1	371	10	0.017
1.5	1 9/16	371	10	0.017
1.5	2	165	8	0.034
3.0	1 9/16	371	12	0.017
3.0	2	371	10	0.034
3.0	2 1/2	165	8	0.068
3.0	3	120	6	0.068
5.5	2	371	10	0.034
5.5	2 1/2	165	10	0.034
5.5	3	165	8	0.068
8.0	2	371	10	0.034
8.0	2 1/2	165	8	0.068
8.0	3	165	8	0.068

THESE ARE CONSERVATIVE SPEEDS. Higher speeds will give yarns that meet most requirements. When production is increased, a proportionally higher lickerin speed and a closer feed-plate setting are recommended.

Recommended Roving Settings for Staple Rayon

(all figures are inches)

Saco-Lowell FS-2 Slubbers (1 1/8-in. front roll)

Staple	Front to second	Second to third
1 1/4	2 (closed)	1 9/16
1 9/16	2 3/16	1 14/16
2	2 10/16	2 5/16
2 1/2	3 1/16	2 9/16

Saco-Lowell FS-1 Slubbers (1 1/8-in. front roll)

Staple	Front to third	Third to back
1 9/16	2 5/8 (closed)	1 15/16
2	2 3/4	2 3/8
2 1/2	3 1/4	2 7/8
3	3 5/8	3 5/16

Whitin Super-Draft Slubbers (1 1/8-in. front roll)

Staple	Apron Bite* Top	Apron Bite* Bottom	First to Second	Second to Third	Third to Fourth
1	1 3/8	1 3/8	1 13/16 (closed)	3 1/8 (fixed)	1 9/16
1 1/4	1 3/8	1 3/8	1 13/16 (closed)	3 1/8 (fixed)	1 13/16
1 9/16	1 3/8	1 3/8	2	3 1/8	2 1/16

Whitin Super-Draft Slubbers (1 3/8-in. front roll)

2	1 3/4	1 3/4	2 1/2	3 7/16 (fixed)	2 5/8
2 1/2	2 1/4	2 1/4	3	3 7/16 (fixed)	3 1/8
3	2 1/2	2 3/4	3 1/2	3 7/16 (fixed)	3 5/8

*Apron Bite is measured from the middle of the second roll to the front edge of the apron.

Conventional Fly Frames

Staple	Slubber	(1 1/4-in. f.r.)	Intermediate	(1 1/4-in. f.r.)	Speeder	(1 1/8-in. f.r.)
0	1—2	2—3	1—2	2—3	1—2	2—3
1	1 3/16	1 5/8	1 1/8	1 1/2	1 1/16	1 3/8
1 1/4	1 7/16	1 7/8	1 3/8	1 3/4	1 5/16	1 5/8
1 9/16	1 3/4	2 3/16	1 11/16	2	1 5/8	1 13/16

Opening and Blending

The pre-opening, blooming, and conditioning of the staple fiber for 24 hr. before picking and carding is essential. This procedure allows all fibers to regain uniformly, permits cross-blending of the bales, lets the staple relax, and affords an excellent opportunity for the identifying tint solution to equalize.

Manual weighing of the fiber is fast giving way to automatic weighing hoppers. These machines are very satisfactory if maintained in accurate mechanical adjustment by frequent checks at one- to two-hour intervals.

Picking

The one-process, two-beater picker gives optimum working of the staple and sufficient blending for most end-use requirements. Two-process picking is entirely satisfactory, but it usually cannot be justified when compared on a cost basis with the present quality of single-process picking. A 350- to 400-lb. maximum production gives best results. When a two-beater picker is used, 33 to 36 beats per inch per beater will give sufficient opening. About 30 beats per inch will suffice when a three-beater picker is used. If three beaters are used, the first beater should be of the two-blade or Aldrich pin type, since the use of more than two Kirschner beaters tends to give

Recommended Card Settings For 1- to 3-in.-Staple Rayon

FLAT CARDS	Setting (in.)
Feed plate to lickerin (See separate table)	
Doffer to cylinder	0.007
Lickerin to cylinder	0.007
Flats to cylinder	0.010
Screen to cylinder—back	0.034
—center	1/16
—front	3/16
Doffer comb	0.017
Flat comb to flats	0.012
Back plate, top and bottom	0.034
Front plate—top	0.029
—bottom	0.034
Mote knives—top	0.017 to 0.022 Max.
—bottom	0.012 to 0.017 Max.
—angle	20° to 22°
Lickerin screen—back	3/16
—front	0.034
Flats to take out to set 7-11-10-7	

ROLLER CARDS	Setting (in.)
Feed plate to lickerin (See separate table)	
Mote knives—top	0.022
—bottom	0.017
Lickerin to cylinder	0.007
Back plate—top	0.034
—bottom	0.034
Lickerin screen—back	3/16
—front	0.034
Cylinder screen—back	0.022
—center	0.034
—front	1/8
Workers to cylinder	0.015
Workers to stripper	0.017
Stripper to cylinder	0.017
Front knife plate—top	0.029
—bottom	0.034
Doffer to cylinder	0.007
Doffer comb	0.012 to 0.017

Recommended Twist Multipliers For Staple-Rayon Roving and Spinning

Denier	Length (in.)	Slubber	Inter-mediate	Long Draft Slubber & Speeder	Spinning Warp	Spinning Filling
1.0	1	1.10	1.20	1.30	3.60	3.10
1.0	1 1/4	1.00	1.10	1.20	3.50	3.00
1.0	1 9/16	0.65	0.75	0.85	3.40*	2.90*
1.25	1 7/8	0.65	0.75	0.85	3.40	2.90
1.5	1	1.25	1.35	1.45	3.75	3.25
1.5	1 1/4	1.10	1.20	1.30	3.75	3.25
1.5	1 9/16	0.75	0.85	0.95	3.50	3.00
1.5	2	0.65	0.75	0.85	3.40	2.90
1.5	2 1/2	0.55	0.65	0.75	3.25	2.75
1.5	3	0.45	0.55	0.65	3.25	2.75
3.0	1 9/16	0.90	1.00	1 10	3.75	3.25
3.0	2	0.75	0.85	0.95	3.50	3.00
3.0	2 1/2	0.65	0.75	0.85	3.40	2.90
3.0	3	0.55	0.65	0.75	3.25	2.75
5.5	2	1.10	1.20	1.30	4.00	3.50
5.5	3	0.75	0.85	0.95	3.75	3.25
8.0 Cr.	1 9/16	1.00	1.10	1.20	4.75	4.25
8.0 Cr.	2	0.90	1.00	1.10	4.50	4.00
8.0 Cr.	2 1/2	0.80	0.90	1.00	4.50	4.00

Recommended Spinning Settings for Staple Rayon

(all figures in inches)

Saco-Lowell Z-2 (1 3/8-in. front roll)		Saco-Lowell Shaw (1-in. front roll)		
Staple	First to Second Weighted Roll	Staple	First to Second Roll	Second to Third Roll
1	1 15/16 (closed)	1	1 7/8 (closed)	1 1/2 (closed)
1 1/4	1 15/16	1 9/16	1 15/16 (closed)	1 3/4
1 9/16 (2)*	1 15/16 (3 11/16)	2	2 3/8 (closed)	2 1/8
2	2 9/16			
2 1/2 (3)**	3 11/16			

*Staple of this length may be processed on the setting shown if the second weighted roll is moved to the fourth cap-bar position.

**3-in. staple can only be processed with the second weighted roll in fourth cap-bar position.

Whitin Casablancas			Long Draft (1-in. front roll)	
	Apron Bite*			
Staple	Top	Bottom	First to Second	Second to Third
1	1 1/2	1 1/2	2 1/16 (closed)	1 13/16 (fixed)
1 1/4	1 1/2	1 1/2	2 1/16	1 13/16 (fixed)
1 9/16	1 1/2	1 1/2	2 3/16	1 13/16 (fixed)

Whitin Casablancas		Long Draft (1 3/8-in. front roll)		
1 7/8	1 7/8	1 7/8	2 7/16	2 1/8
2	1 7/8	1 7/8	2 9/16	2 7/16
2 1/4	2 9/16	2 13/16	3 1/2	2 3/4
2 1/2	2 9/16	2 13/16	3 1/2	3
3	2 8/16	2 13/16	3 5/8	3 1/2

*Apron Bite is measured from the middle of the second roll to the tip of the apron.

Conventional (1 3/8-in. front roll)		
Staple	Front to Second	Second to Back
2	1 1/4 (closed)	1 3/8 (closed)
2 1/2	1 7/16	1 9/16
3	1 11/16	1 13/16
Conventional (1-in. front roll)		
1	1 1/16	1 1/4 (fixed)
1 1/4	1 1/8	1 1/4 (fixed)
1 9/16	1 3/8	1 1/4 (fixed)
2	1 1/2	1 1/4 (fixed)

excessive neps in 3-den, and finer staples.

Fan speed should be maintained between 1,100 and 1,400 rpm., depending on the back-pressure conditions. Excessive fan speeds should be avoided because you need only enough draft to pull the stock promptly from the beater chamber. Having all or most of the draft on the top cage gives best results in lap formation. An ad-

(Continued on page 339)

A NEW, Quick Way To Set Your Knowles HEAD MOTION

▶ Your loomfixers can spend a lot of time setting a head motion. If a fixer isn't careful, he will spend much of his time backtracking. Don't play around with the job. Follow these one, two, three instructions to set a head and get away from the loom. These settings are for C-4 looms —W-3 settings are only slightly different.

By JAMES A. EDWARDS

THE KNOWLES HEAD MOTION looks complicated; but if it's approached right, it's one of the simplest loom mechanisms.

Perhaps the reason the head motion looks so complicated is that the box motion and head motion are both driven from the same main shaft.

Here's the thing to do. Segregate the box motion from the harness motion in your settings. The rest is easy.

Make these nine settings:

1. Time the Eccentric Gears

The eccentric gears change the dwell of the harnesses and make the work of the box motion easier on various fabrics.

For example:

a. Suppose you have an overstretched yarn that is sized too hard for good weaving. The filling pattern calls for the box motion to skip from the first shuttle box to the third shuttle box.

Here you have bad weaving conditions in both the harness motion and box motion. The remedy: Set the eccentric gears for a box-section setting of a fast start and a slow finish, and set the harness section to a medium, fast, medium position.

Setting a

b. If you are weaving a warp of mohair or other fuzzy fiber, use a box-motion setting of medium, slow, medium and a harness-motion setting of fast, medium, slow.

This harness setting will break the warp ends apart rapidly. The box motion, too, will work all right at this combination of speeds.

Setting b

c. When fine-denier yarns are used in a warp and a light beat-up is desired in conjunction with a skip-box pattern, a box-motion timing of medium, fast, medium is used to give a harness timing of slow, medium, fast.

Setting c

d. The setting usually used for slick, well-slashed yarns is a slow start and quick finish at the box motion and a medium, slow, medium harness-motion setting. This setting is good for average weaving conditions, since little strain is placed on the box motion and on the warp yarn.

Setting d

After the desired setting of the eccentric gears has been established for the best weaving conditions for a specific fabric, set the eccentric gears.

The lay position for this setting is 11 in. from the box back to the inside edge of the breastbeam.

To eliminate the possibility of a shuttle breakout, have all the shuttles in the shuttle box at the head end of the loom when any settings are made on the Knowles head.

After the eccentric gears are set, they will not have to be disturbed until the cloth pattern on the loom is changed.

2. Time the Box Motion

Position the lay with the box back 9½ in. from the breastbeam.

Slide the top eccentric gear out of mesh with the bevel gear on the upright shaft; turn the cylinder-gear handwheel clockwise until the first tooth of the box-motion cylinder gear (top and bottom) engages the first tooth of the vibrator gear.

Reposition the top eccentric gear in mesh with the upright-shaft bevel gear.

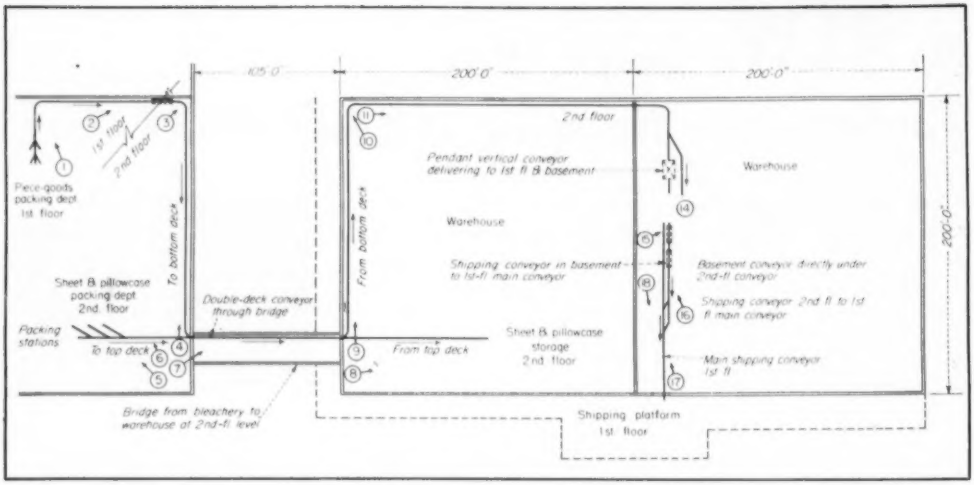
The box motion cylinder gears are permanently positioned on the cylinder-gear shafts and are positively timed with each other.

The box motion is now timed properly and should not be changed.

3. Time the Harness Crossing

If useless backtracking of head settings is to be eliminated, the timing of the harness crossing in relation to the beat-up of the cloth must be established before any settings are made to follow the box-motion timing.

The harnesses can be timed to cross at any point from front center back to 2½ in. before front center.



THE COMPLETE SYSTEM is shown here. In the plan view the numbers show where the pictures on pages 96, 97, and 98 were taken.

First-Class CONVEYOR *Serves Springs Bleachery*

▶ Grace Bleachery of The Springs Cotton Mills saw a bottleneck in handling packaged goods for shipment and decided to do something about it. Grace worked with Alvey Conveyor Mfg. Co., St. Louis, Mo., to design a conveyor system and with The E. W. Buschman Co., Cincinnati, Ohio, to work out an addition to the system.

Advantages of the conveyor system are—

- **Space necessary for handling has been reduced 90%**
- **Damage to property and to packing cases is less**
- **There's less mixed and stray goods**
- **Fewer pallets, boxes, and trucks are needed**
- **Costs of handling and shipping are greatly reduced**

THE CONVEYOR SYSTEM at Grace Bleachery starts where processing ends. After the cloth has been cooled and shaded, cases are packed on short idler sections and are delivered through a series of live rollers and belt boosters to a gravity section of the conveyor.

The first stop on the conveyor is a stenciling section, and next is the weighing station. Cases are weighed; and if the weight does not check with the yardage shown on the invoice in the case, the case is sidetracked until the error is found. A chart by the scale shows the weight of each style of finished cloth. The invoice is sent to the general office in a pneumatic tube.

The cases are steel-strapped at this point and are carried by the conveyor to the pendent elevator for distribution throughout the warehouse.

A second section of the conveyor system starts in the sewing room, where packaged pillowcases and sheets are handled in much the same manner as those in the piece-goods packing department. These sewed packaged goods go to the second floor of the warehouse for storage.

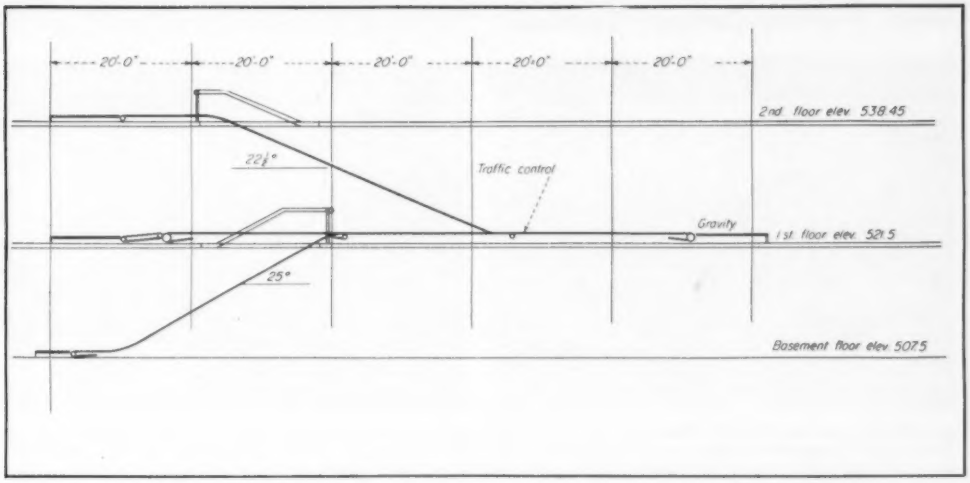
As it was desirable to store all cases of sheets and pillowcases on the second floor of the warehouse, a double-deck conveyor was installed through the bridge connecting the main building and the warehouse. Packed cases of sheets and pillowcases are handled on the top deck and delivered directly to the center of the second-floor storage area.

Elevator Handles 80 Cases Per Hour

From the packing-line conveyor on the first floor, the cases travel over a system of belt, gravity, and live-roller sections to the vertical pendent elevator. This conveyor includes the inclined-belt conveyor that handles cases from the first floor to the second floor.

The material flow depends on the vertical pendent elevator for its speed and over-all effectiveness.

The elevator takes packing cases from the second floor of the warehouse to the first floor and to the basement. When a button is pushed on



THE ELEVATION shows how the goods are routed from the warehouse positions to the shipping platform.

any one of the three floors, materials are unloaded on any given floor. When the elevator changes from one unloading station to another, the cases stop loading for one-half revolution of the carriers to avoid congestion of packing cases.

An electric eye at each unloading station stops the elevator if boxes hang as they are unloaded.

The elevator handles 80 cases of packaged goods per hour to keep the plant and shipping department going at full capacity.

The System Is Fully Automatic

From the time that the packing cases leave the strapping department to the time that they are distributed to any one of the three floors of the warehouse, no person is required to be near them.

Someone does have to push the button at the elevator, from any floor, to determine the floor on which cases are unloaded. Warehousemen on that floor remove the packing cases from the end of the conveyor with fork trucks and place them on vacant racks. No other person is on the other two floors of the warehouse or near any part of the conveyor line.

After one floor of the warehouse has been filled, a man checks each packing case. He marks the warehouse position on the side of the case and on the small identification slip and removes the slip, which is sent to the warehouse office for cataloguing.

The person who catalogues the packing case marks the packing-case number and its warehouse position in a running ledger.

Another Conveyor Is Used For Shipping

Orders for shipment of materials go to the catalog department. Goods that are to be shipped are placed on a shipping invoice that shows the case number, its warehouse location, and the number of the carrier. A "locator" uses the invoice as a guide to find the cases that are to be shipped. He tours the warehouse aisle by aisle and marks each case to be shipped.

Warehousemen come behind the locator and truck the marked cases to the conveyor that ends at the shipping platform. Here, two men check the invoices against the cases for final shipment by rail or truck.

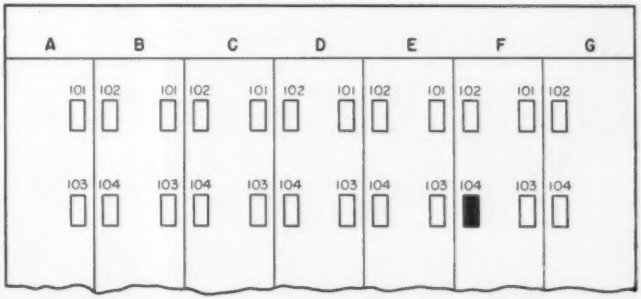
The shipping conveyor handles cases from all three floors of the warehouse and delivers them to the shipping platform. In the shipping room on the first floor, there is a live-roller conveyor equipped with Alvey traffic-control devices. Inclined-belt conveyors bring cases from both basement and second-floor storage. The cases from all three floors move over this conveyor and pass a checker's stand just before reaching the shipping platform.

Each box car or truck trailer is numbered, and the goods designated to a car or truck can therefore be properly loaded.

In truck shipments, the tractor is detached from the trailer and taken to another job, and the trailer is picked up by another truck when the trailer is filled.

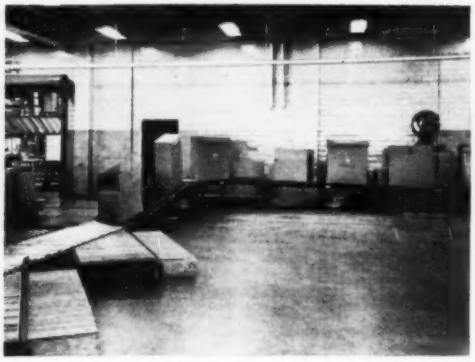
The Alvey and Buschman conveyor system has resulted in a continuous flow of finished materials from the plant.

Turn the page to see the conveyor in action ➡

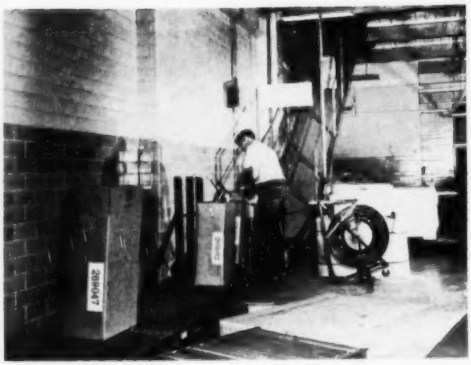


WAREHOUSE LAYOUT makes it easy to locate cases. First digit indicates the floor, and the next two digits and the letter are for location on that floor. 104-F, for instance, refers to a case in the basement in the position shown above.

Grace Bleachery Conveyor (Continued)



1 SHIPPING CASES ARE PACKED on four Y-sections. The cases are easily pushed onto the live-roller section that delivers to a short booster belt that carries them to the stenciling section and to the scales.



2 CASES THAT DO NOT CHECK with the invoices are removed at this Y-section. If the yardage, weight, and other invoice information check properly, the cases are strapped. The inclined belt is controlled by a foot switch.

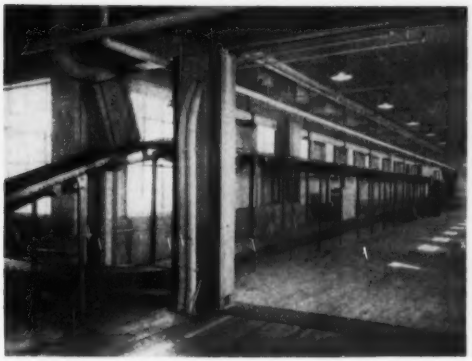
3 GRAVITY FEED replaces the power belt as the shipping cases reach the top of the incline at second-floor level. The cases easily make the 90° turn as the power belt ends.

4 THIS ENTIRE STRETCH is a gravity section. A level section just ahead of the 90° turn into the bridge is a live-roller conveyor that checks the speed of heavier cases.

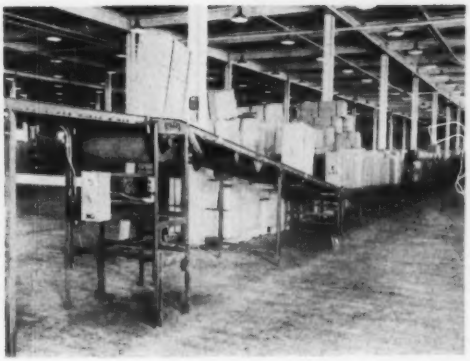
5 A SECOND CONVEYOR LINE starts in the sheet and pillowcase packing department. After the cases are packed and strapped on the three Y-sections, they are pushed onto the live-roller line.

6 CASES ARE WEIGHED before they are put on the second conveyor line. The foot-operated stop holds the cases as they are checked. The inclined conveyor goes up and over the first conveyor line.

Grace Bleachery Conveyor (Continued)



7 DOUBLE-DECK SYSTEM starts in the bridge that connects the second floor of the main building to the warehouse. The bottom conveyor is from the first floor, and the top one originated on the second floor.

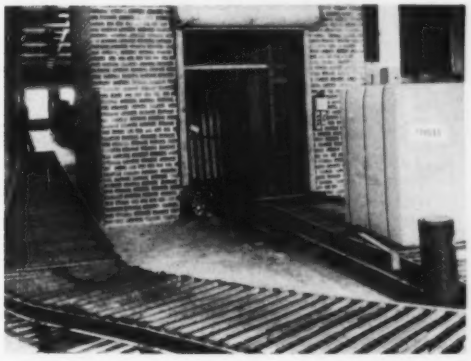


8 THE SHEET AND PILLOWCASE line ends here in the warehouse. The line will soon be extended to the center of the enlarged warehouse. Cases are placed on hand trucks and stored until they are shipped.

9 EXPANSION OF OPERATIONS made it necessary to double the warehouse space. The Buschman conveyor line begins here. This live-roller conveyor follows the warehouse wall.

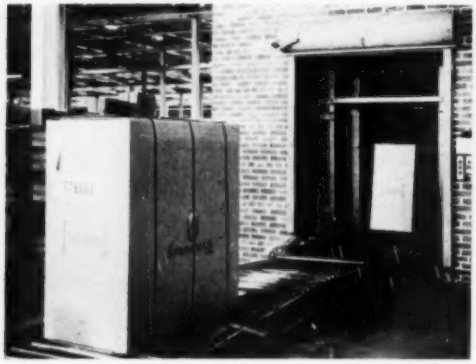
10 ANOTHER GRAVITY FEED is used to replace live-roller feed at this corner. These cases are from the packaged-goods department in the main plant.

11 RAIL EXTENDS FROM WALL and guides the packing cases to the center of the conveyor. Under normal plant operations the packing cases are spaced as they are shown here.



12 THE ELECTRIC EYE spaces the cases for entrance to the pendent vertical elevator. Cases can be diverted to the gravity rollers at the left and stored on the warehouse second floor.

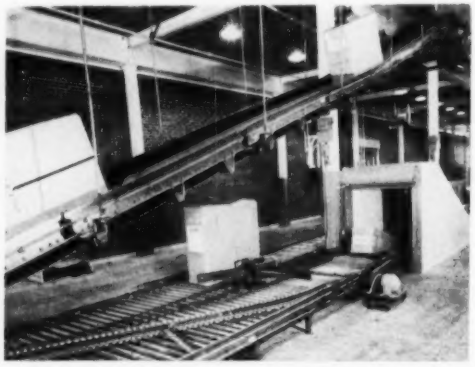
Grace Bleachery Conveyor (Concluded)



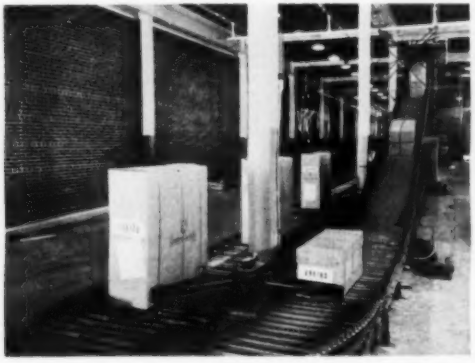
13 THIS AUTOMATIC CONTROL on the wall of the elevator is used to unload cases on either the first floor or the basement. Two rails at the sides of the conveyor line guide the cases to the center of the rolls.

14 UNLOADING THE ELEVATOR results when the forked lift passes between the rollers at the first floor or the basement. The rollers are tilted out of position when cases are unloaded at another floor.

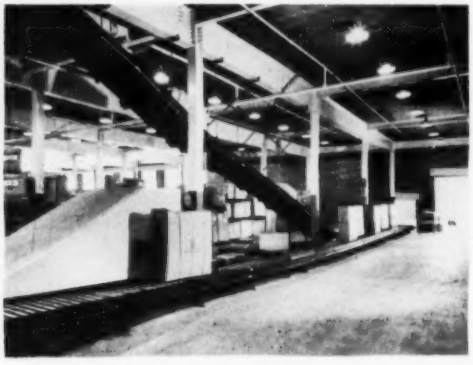
15 THE ALVEY SYSTEM picks up again when materials are moved from the basement to the first floor. They are loaded onto the short section of a gravity conveyor that feeds onto an inclined-belt conveyor.



16 THE "TRAFFIC COP" that is permitting a packing case to pass from the first-floor section of the conveyor will stop the case that is coming from the basement section until the first-floor case is safely past.



17 BASEMENT AND FIRST-FLOOR SECTIONS converge and are controlled by another "traffic cop" as the cases from the second floor enter the main conveyor section.



18 THE ENTIRE CONVEYOR SYSTEM ends here where the packing cases are checked out for shipment. The employee who checks cases for shipment controls the flow of material, if necessary.

BLENDS—

How To Handle Them In Bleaching and Dyeing

To get best results, you must:

- **Know your fiber properties**
- **Tailor processing to the weakest fiber**
- **Try new methods**

THE ONE ABSOLUTE ESSENTIAL for repeated success in dyeing mixtures of fibers is a thorough knowledge of the properties and processes required by each fiber.

Oil Troubles Will Lessen

The first process to be considered is scouring. And the first principle here is that scouring should be controlled to suit the most sensitive of the fibers in the mixture. In the hosiery industry, the wool used is generally of high quality and has been spun on the worsted system. Such yarns contain, for the most part, neutral, blended oils that do not require much alkali to remove them. With a clean mixture, even if the wool component has 5% oil, this oil content is reduced considerably by the relative freedom from oil of the other fibers, and many dyers prefer to commence operations without a preliminary scour. A small proportion of synthetic detergent is sufficient in the dyebath.

If work now in progress on the incorporation of auxiliaries in the blending oil proves successful, we may look forward to materials scouring themselves merely by treatment with water at the required temperature. As a practical method for mixtures in general, we recommend the use of the anionic or synthetic nonionic detergents with regulated quantities of sodium chloride or sodium sulfate. Use the mechanical arrangement in scouring that is best suited to the form of the material—whether it be yarn on a cheese or in a hank, a fabric, garments, or footwear.

From a paper presented at the 37th Annual Conference, British Textile Institute, Edinburgh, Scotland.

What Blends?

▶ Although this report deals primarily with wool and wool blends, the principles are applicable to synthetics and synthetic blends as well.

Alkalis such as ammonia, sodium carbonate, sodium bicarbonate, and tetrasodium pyrophosphate may be used to control the pH of the scouring bath to any desired degree. It is particularly important, when continuous baths such as three-bowl scouring machines are used, that this pH control be exercised. Soap and ammonia were at one time regarded as the best scouring materials, but during World War II, difficulties in obtaining the readily emulsifiable vegetable and mineral oils led to the present-day blending of combing and spinning oils. As a practical consequence of this, the use of the modern synthetic detergents proved to be advantageous, especially as various dyeing difficulties caused by traces of soap were eliminated.

The usual problems of the penetration of tightly knitted areas—the removal of the inevitable patch of lubricating oil and the periodic epidemics of surface marks—occur with blends as much as with single fibers. There are certain features that, when present in single fibers, can be dealt with relatively easily but are most difficult to handle in mixtures. We refer particularly to a few processes requiring too high an alkalinity to be safe when protein fibers are present; for example, the removal of cottonseed particles from mixtures of cotton and wool, the purification of "undesulfurized" rayon yarn in certain mixtures, and the removal of sizes from various synthetic-polymer yarns. These are all special problems, and a compromise has to be struck between the desirable and the practical. A practical example is the scouring of wool-and-acetate mixtures, where the acetate may be tinted a deep shade of pink. If scoured at the neutral point, or if the blend is acid, this color sometimes stains the wool. If, however, the scouring temperature is reduced and the solution is made weakly alkaline with a little ammonia, the fugitive tint can be successfully removed.

Peroxide Bleach Is Safe

In the bleaching of materials made from blended fibers, as in scouring, the method to be used is devised to suit the most sensitive fiber in the mixture. Where, however, the fibers are all of one group, the usual methods may be used.

Comparative tests on samples of cotton, viscose, and cuprammonium rayons submitted to hypochlorite, chlorite, and peroxide bleaching show that great care must be exercised in controlling the bleaching of mixtures containing the cellulosic fibers. Particular care must be taken in bleaching such mixtures with hypochlorite if the material is to be dyed afterwards. Unlevel results can be obtained as easily with mixtures as they can with single-fiber materials if you use some types of direct dyes that are specially salt-sensitive and show great

(Continued on page 275)

Values Obtained on USDA Samples

USDA grade	Range			Average		
	Green	Amber	Blue	Green	Amber	Blue
GM	0.652 to 0.688	0.686 to 0.730	0.536 to 0.596	0.678	0.705	0.561
SM	0.632 to 0.658	0.654 to 0.680	0.524 to 0.548	0.645	0.668	0.537
M	0.594 to 0.638	0.624 to 0.648	0.498 to 0.548	0.620	0.636	0.531
SLM	0.566 to 0.602	0.578 to 0.614	0.480 to 0.514	0.587	0.598	0.494
LM	0.530 to 0.562	0.540 to 0.582	0.446 to 0.480	0.546	0.560	0.464
SGO	0.502 to 0.532	0.518 to 0.556	0.422 to 0.460	0.519	0.538	0.442
GO	0.440 to 0.492	0.460 to 0.504	0.374 to 0.432	0.464	0.480	0.397
GMT	0.604 to 0.634	0.642 to 0.676	0.470 to 0.500	0.622	0.658	0.483
SMT	0.538 to 0.586	0.568 to 0.622	0.410 to 0.458	0.564	0.599	0.438
MT	0.530 to 0.562	0.552 to 0.584	0.374 to 0.436	0.541	0.566	0.401
SLMT	0.472 to 0.544	0.506 to 0.556	0.352 to 0.398	0.501	0.531	0.381
LMT	0.462 to 0.514	0.496 to 0.552	0.336 to 0.404	0.480	0.511	0.366

STANDARD SAMPLES from the U. S. Dept. of Agriculture were measured for a basis of comparison. The 0.652 value of green, for example, compares with 1.00 for magnesium oxide, considered the ideal white. The green, amber, and blue averages were used in grading the test samples.

Now You Can GRADE COTTON *With a Laboratory Instrument*

► An automobile headlight arranged to reflect light from cotton samples can be used in grading cotton.

► In grading, it is 87% accurate. For color alone, it is 94% accurate.

By THOMAS V. CRAWLEY, JR., JACK D. TOWERY, BILLY K. POWER, and LYLE E. HESSLER
Cotton Research, Texas Technological College

THE OVER-ALL COLOR OF machine-picked cotton contains three variable components: (1) the trash that is present, (2) graying due to weathering in the field to produce defoliation, and (3) stains produced by frost.

For an evaluation of this color problem, a series of tests was made on 146 samples of cotton with a photoelectric reflection meter with three tristimulus filters: green, amber, and blue. The meter gives a close approximation for white and near-white surfaces and is well suited for making color measurements on cotton.

The tests indicate that the meter, if properly used, can give dependable grade data, either alone or in duplicating grading by experienced cotton classers. On the 146 samples, which had been graded by two classers, the instrument graded the samples with 87% accuracy. For color alone, it was 94% accurate.

How the Instrument Works

The photoelectric reflection meter Model 610, made by Photovolt Corp., has a search unit that uses a 6-v. 15-candlepower automobile headlamp as a light source. The light, collimated by two lenses, passes through a filter and an aperture in the center of the photocell and strikes the test surface in a parallel beam.

The standard search unit of the Model 610 is furnished with two photocells; but in the cotton-color tests, only one of them was used. This one, the measuring photocell, is mounted so that it registers the diffused light reflected from the test surface. The compensating photocell, which faces the light directly, was not used.

On the basis that magnesium oxide approximates ideal white, it was given the value 1.00. (Black would have a value of zero.) However, the repeated use of magnesium oxide as a standard is not feasible; therefore, an enameled plaque was used as a working standard. The plaque was calibrated by Photovolt Corp. as having the following values for the three tristimulus filters: green, 76.5; amber, 76.0; and blue, 78.5.

How the Tests Were Made

The first step was to use the reflectometer with the tristimulus filters on a set of U. S. Dept. of Agriculture grade standards. The search unit, with the green filter in place, was placed on five different areas of each of the 12 individual samples in the box, and the five readings were recorded. The green filter was then replaced by the amber and blue filters respectively, and the foregoing procedure repeated.

The readings on each sample for each filter were averaged, and the average of the 12 samples was calculated. Average values for the grade were thus obtained for the three filters. The range of values for each filter was established for each box by noting maximum and minimum values. This procedure established a range of values and an average value for the USDA standard grades for each of the three filters.

Test Results on Cotton in Process

Spinning test	Raw cotton	Picker lap	Card	First drawing	Second drawing	Roving	Kier boil	Bleach
1	0.262	0.284	0.216	0.222	0.260	0.291	0.387	0.908
2	0.344	0.304	0.430	0.414	0.414	0.360	0.506	0.893
3	0.366	0.443	0.500	0.509	0.450	0.440	0.617	0.908
4	0.370	0.382	0.380	0.411	0.407	0.391	0.608	0.899
5	0.417	0.519	0.498	0.527	0.468	0.508	0.605	0.854
6	0.448	0.411	0.463	0.455	0.444	0.428	0.697	0.881
7	0.455	0.504	0.480	0.487	0.478	0.497	0.703	0.923
8	0.462	0.459	0.477	0.489	0.532	0.501	0.719	0.906
9	0.468	0.488	0.493	0.473	0.502	0.494	0.702	0.923
10	0.468	0.459	0.514	0.537	0.500	0.533	0.729	0.910
11	0.469	0.476	0.476	0.469	0.495	0.495	0.722	0.864
12	0.493	0.533	0.496	0.523	0.537	0.512	0.649	0.936
Control sample	0.492						0.586	0.915

WHITENESS VALUES of the cottons given by the instrument followed the classers' grades. Low values were obtained on the lower grades and high values on the higher grades. Only kier boiling and bleaching significantly improved color.

After these standard values were established, similar readings were recorded for each of the 146 samples with each of the green, amber, and blue filters. Average values for the three filters were computed for each sample and compared with the respective values from the USDA standards.

The test sample was given the grade of the standard sample that had the closest correlation of its three values with the respective values of the test sample. For example, Sample No. 30 showed the following average values; green, 0.540; amber, 0.582; and blue, 0.476. Since the respective values of Sample No. 30 and USDA standard Low Middling show the closest correlation, Sample No. 30 was given the grade of Low Middling.

Care was taken to use approximately equal pressure on the search unit each time it was placed on the cotton. Since the aperture of the search unit is only ¾ in. in diameter, it was necessary to avoid placing the search unit on large trash. For non-randomized samples, readings that did not conform to a tolerance of eight scale units were repeated.

Cotton in Process Was Tested

Color determinations were also made of cotton as it is processed. Measurements were made on the sample, picker lap, card sliver, first and second drawing slivers, roving, after open boiling in 2% sodium hydroxide, and after bleaching with an 0.5% solution of sodium hypochlorite.

This report is based on 12 different spinning tests made on blends of various High Plains machine-harvested cottons having comparable fiber fineness and staple length.

The original sample was made up by using equal weights from the cottons designated for the spinning tests and blending them together in a small randonizer. Note should be made that, in blending the sample, a small undetermined quantity of trash was removed.

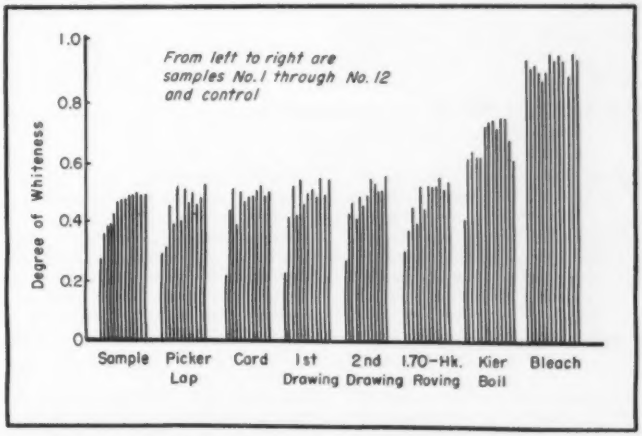
When the cotton was removed from the blender it was extremely fluffy, compared to cotton from the ginned bale. Therefore, some trouble was encountered in obtaining reliable results from the reflectometer when the search unit was placed directly upon the cotton, as was done prior to randomizing.

Difficulties were particularly pronounced when measurements were attempted on the cotton in sliver form.

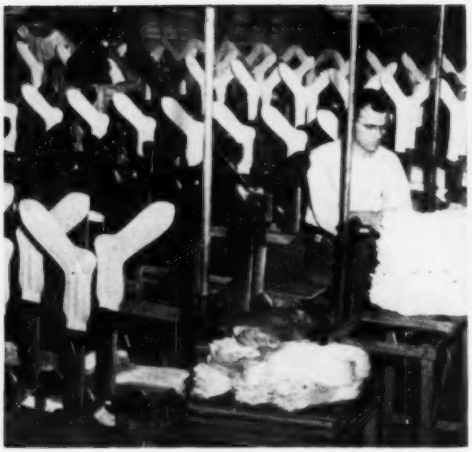
The readings obtained at these stages were high and could not be explained from a cleaning standpoint. With the search unit as constituted, the nature of the surface being viewed was highly important. Randomized and parallel fiber of the same cotton did not give the same values. The density of the sample also played a part in the ultimate values.

To overcome these difficulties, a cylinder with a glass for a view front was assembled. The reflectometer was calibrated against the standard opaque

(Continued on page 335)



COMPARATIVE WHITENESS of the samples and the effect of processing are shown in this graphic presentation of the same information contained in the table labeled "Test Results on Cotton in Process."



SOCKS received in big boxes from the bleaching and dyeing department are boarded and stacked on square boards ready for the worktables.

NEXT STOP is the inspecting and pairing tables adjacent to the boarding area (right background). Goods have to be moved only a few steps.

In One Night, Half-Hose Mill Cut TIME-IN-PROCESS 25%

▶ Villa Rica Hosiery Mills took a long look at the lost motion in its dry-finishing department. Overnight, and practically at no cost, it rearranged its equipment to—

- **Cut out backtracking**
- **Reduce handling**
- **Speed the flow of goods**

By E. DALTON WHITE, McGraw-Hill Atlanta Bureau

Villa Rica Hosiery Mills, Inc., Villa Rica, Ga., speeded the delivery of hosiery through the dry-finishing plant and to the shipping department by some 25% without increasing workloads. The job was done by streamlining production procedure and speeding the flow of goods through the mill.

The Villa Rica mill, like so many others in the textile industry, has grown in size and production capacity. New equipment and worktables were added as they were needed, and the point was reached where rearrangement of facilities would provide better production flow.

A survey was made of the finishing operations with the view of eliminating backtracking and reducing the amount of materials handling. The objective was to rearrange the working areas so that goods would move naturally from one work area to another in lots on a continuous-flow basis.

Final plans called for the hosiery to move forward from dyeing and bleaching to the boarding room and then continue to the first stages in the dry-finishing department. In the finishing department, inspection, pairing, stamping, and boxing were to be on a step-by-step basis with no backtracking or cross flow. The boxed hosiery was to wind up at the door of the shipping department for storage or delivery.

Where goods might accumulate on worktables, the mill made built-in storage racks within about arm's reach of the operator. Provisions were made so that menders and re-dyes could be handled without interference with the steady flow of production.

Department Revamped Overnight

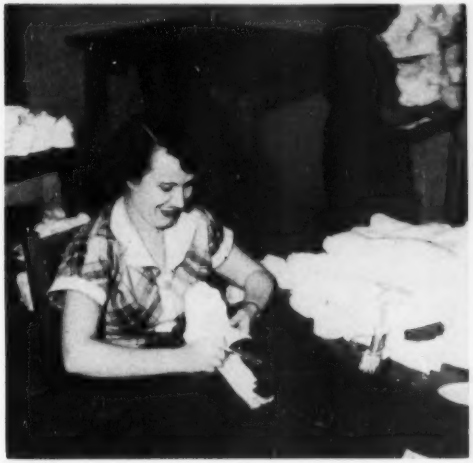
With plans completed, the floor areas were marked off and the equipment was labeled for moving to new locations. Everyone was briefed on the plan so that there would be no delay or confusion during the rearrangement.

The entire job took only a few hours, and there was a minimum of shifting worktables and other equipment. Old bins and stock racks were torn out and replaced by new ones previously built in the shop. Worktables were shifted so that each operation followed in sequence, either forward or to the side. In each instance, goods moved in the direction of the shipping department with a minimum of handling.

When the morning shift arrived the

STORED STOCK, still on the square handling boards, is placed in wooden racks only two or three steps from the worktables in the new setup.

THE CLIPPER, who cuts off loose ends of yarn, takes the socks off one handling board, clips the loose ends, and stacks the socks on another board.



"TRIPLE-TOP" ANKLETS, knitted long for a double turn-down, are turned with the sock on a saw-tooth holder and stacked on a handling board.

LABELED SOCKS, four pairs to a cellophane bag, are boxed for shipment at the end of the production line and adjacent to the shipping department.

next morning, everything was ready and there was no delay in production.

A check on how well the new arrangement was working revealed that goods were flowing through the finishing department at least 25% faster, and there had been no increase in workloads.

The installation of storage racks eliminated the accumulation of goods on worktables and allowed more working space.

Another aid to easier production was the provision to maintain all materials—such as transfers, labels, stickers, pin tickets, etc.—in position near the worktables. Replenishment of these supplies is made by the box department, which maintains the stock of packing and other materials.

Seconds Finished With Firsts

In working out the new flow arrangement, the mill decided to allow all seconds to be finished the same as first-quality goods. Seconds separated during the knitting inspection are marked with a red tag, and the entire lot of firsts and seconds is processed through bleaching, dyeing, boarding, and finishing. In this way, no special handling is required for seconds.

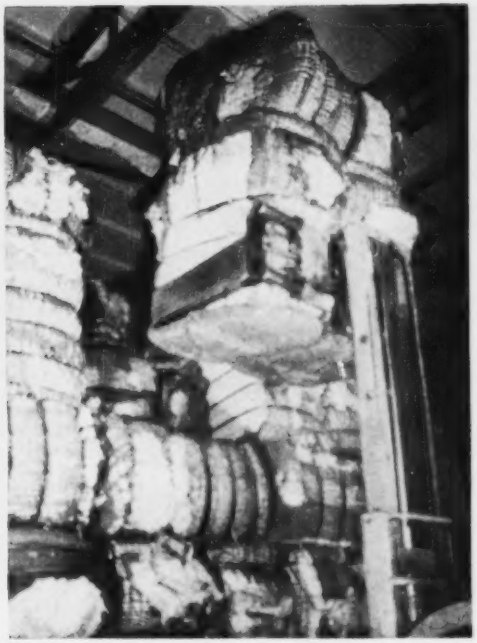
Seconds and re-dyes sorted out at the pairing table in the final inspection are returned to mending or the dye plant. The menders are returned in lots from the sewing department and are paired, labeled, and boxed for shipment without any interference with normal production flow. Re-dyes come back through the production line with regular stock.

BALES ARE STACKED five high—three bales on end and two on their sides. Watch the hole that's going to be filled. Beaumont buys flat bales.

How WAREHOUSE CAPACITY *Was Increased 600%*

By **JAMES H. KENNEDY,** Southern Editor, TEXTILE WORLD

UNIT LOAD for off-the-floor stacking is three bales—two vertical and one laid across the top. Note the truck's overhead guard and special clamps.



POSITIONED and ready to be set in the slot, the three-bale load almost touches the 18-ft. ceiling. The truck operator became expert in less than a month.

▶ To get seven times as many bales of cotton stored in the same floor space, this mill:

1. Raised the roof

2. Bought a lift truck that would stack bales five high

WHAT DO YOU DO when you run out of warehouse space? You can always build another warehouse; but Beaumont Mills, Spartanburg, S. C., preferred to increase storage capacity by making better use of the space it had.

Ceiling Was Raised Nine Feet

There wasn't much potential in the old 9-ft. ceilings, so the mill raised the ceiling—in one piece—and made the new height about 18 ft.

Capacity of the old warehouse was about 200 flat bales. The new setup had a potential capacity of 1,400 bales—if the additional space between floor and ceiling could be used.

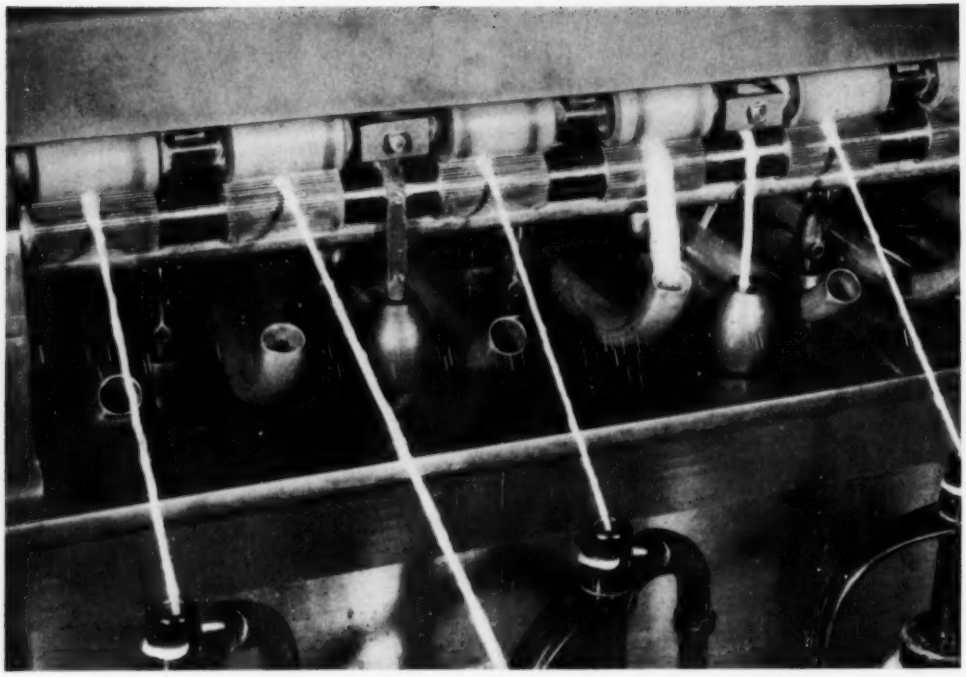
$4,200 Was Spent for a Lift Truck

Wrenn Brothers, Charlotte, N. C., the local distributor for Hyster trucks, recommended a 2-ton-capacity truck with a 12-ft. lift. Beaumont bought it—for about $4,200—and has never regretted doing so.

It took less than a month to make an expert truck driver out of a fellow who had no previous experience, except with a hand truck.

Beaumont figures that the truck will pay for itself in about 7 mo. because the truck replaced four men.

SAFELY DEPOSITED. There's just enough room between stacks to allow the clamps to be removed. There's not a cubic foot of wasted space.



PNEUMASTOP is said to stop a roving frame within 5 sec. after an end comes down. The timetable is: 1st SECOND, the end is sucked into a copper tube resting on the breastbeam and located a specified distance from the end. Air suction is adjusted to the hank roving.

Textile Equipment News Feature—

PNEUMASTOP— *Milepost for Roving Frames?*

▶Air removal of a broken roving end and an electric eye to knock the frame off. That's Pneumastop. It may mean that you can reassess your whole roving-frame operation.

By P. M. THOMAS, Editor, TEXTILE WORLD

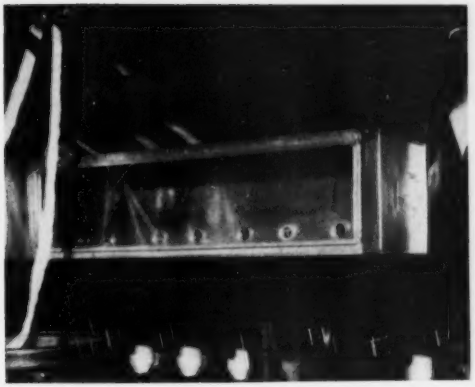
A FEW WEEKS AGO Pneumafil Corp., Charlotte, N. C., took the wraps off a new roving-frame development. Genial "Pete" Harris, president of Pneumafil, grinned at the idea of another "revolution" for the industry; but he said, "We believe we've got a serious problem licked."

The development, known as Pneumastop, is a combination of the well-known Pneumafil used on spinning frames and an electric-eye stop motion. When an end comes down on the roving frame, it is sucked through a tube into a duct. At the collection end of the duct, the lint breaks the beam of an electric eye and an electronic knock-off shuts power off the motor to stop the frame.

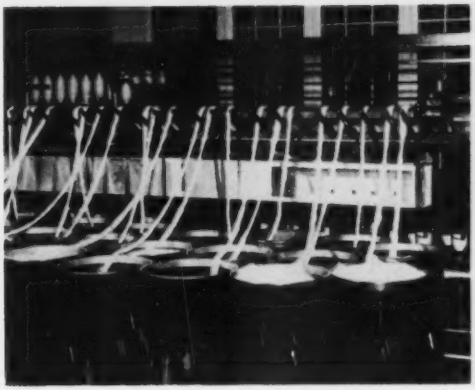
Key points of the system are shown in the accompanying pictures.

The cost of Pneumastop will be in the neighborhood of $1,150 per frame. Since the big part of the cost is in the working parts, a long frame will cost very little more than a short frame.

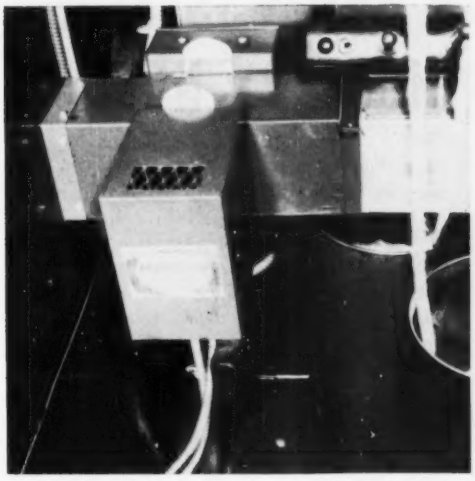
According to Pneumafil, mills may find it practicable to revamp their old methods of work assignment on roving frames. The company says, "An operator's job is divided between doffing, creeling, cleaning, and piecing. Regardless of what the operator is doing, he must always be alert for



2nd SECOND. Lint sucked through the tube enters a duct just behind the breastbeam. This glass section permits you to see the delivery ends of the tubes.



3rd SECOND. Lint from the broken end is sucked down the duct (to the left in this picture) toward the knock-off section and the lint-collection box.



4th SECOND. Lint coming through the duct from the right passes through this electric-eye section, breaking the electronic beam and giving the stop signal.

5th SECOND. The stop motion (lower cabinet) shuts power off the motor, and the red light over the lint-collection cabinet flashes on and off.

broken ends and 'snow-storms' caused by a bunch of ends being knocked down."

With Pneumastop "practically 100% effective" in sucking up broken ends, the roving-frame operator is relieved of what has always been the major limiting factor in assigning roving tasks. Pneumafil thinks it will be possible to reassess work assignments to make full use of teams of specialists (creelers, doffers, end piecers, and cleaners), rather than assign a certain number of frames to an operator.

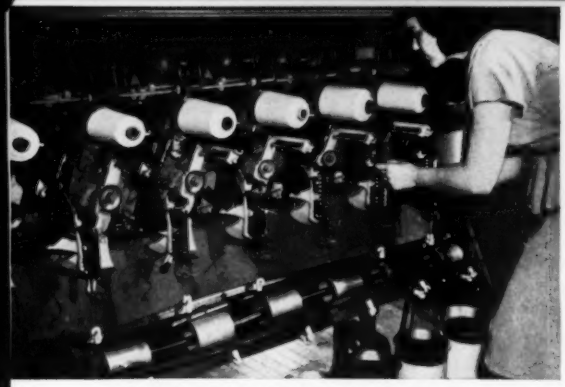
Still further savings could be made by rearranging machinery to obtain better flow (with shorter hauls for moving sliver and cans) from cards to drawings to roving frames.

Advantages gained from the use of Pneumastop are said to be:

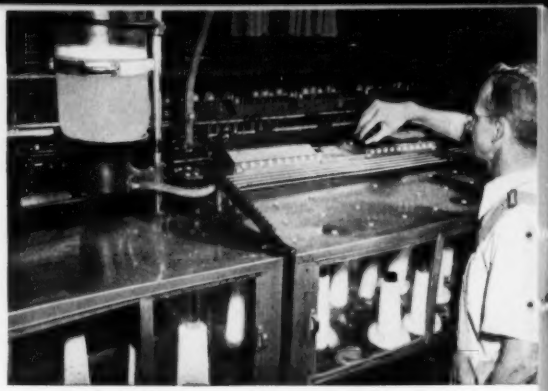
1. Lower unit cost through work reassignments, better frame layout, less waste, and increased production in spinning, spooling, and weaving as a result of better-running roving.
2. Better quality as a result of fewer defects such as slubs, gouts, and doublings.
3. Better waste control and better utilization of roving waste.
4. Better-running work.
5. Reduced training time for operators because of task specialization.

For installations where it is preferable not to knock off the frame when an end comes down, Pneumastop can be installed without the stop motion. It functions then, as Pneumafil does on a spinning frame, only to suck the broken end away from the rolls and prevent it from lapping over into an adjacent end.

Pneumafil Corp. estimates that the jobload of a roving tender can be increased from 20% for coarser hank rovings to 100% for rovings finer than about 2.00 hank.



COMPARATIVE CONING OIL TESTS were run by this throwster in an effort to improve quality. Sunoco Fibrlub L-220 gave the finest results. It lubricated better, reducing breakage. Because it does not change in viscosity or composition, Fibrlub L-220 eliminated preferential pick-up. Along with economies in production, it brought substantial savings in process oil costs.



DELAYS ELIMINATED. A well-known knitter had trouble with an expensive trough oil. It would not form stable emulsions and it frequently caused unlevel dyeing, because it would not scour out thoroughly. Changing to Sunotex TS-48 proved the answer to both problems. In addition, Sunotex TS-48 helps him get cleaner, rounder, more uniform stitches.

MILLS FIND 3 SUN PROCESS AIDS MEET ALL NYLON HOSIERY NEEDS

Through the years, working in close collaboration with the technical staffs of nylon throwsters and knitters, Sun Oil Company research groups have developed three process aids which meet all fiber lubrication requirements of the full-fashioned hosiery industry. Each serves a particular purpose: Sunoco Fibrlub L-220 is a coning oil for throwsters; Sunotex TS-48 a trough oil for knitters of 30-and-higher-denier hose; Sunoco Fibrlub 45 a special wick oil for knitters of 15 and 20-denier hose.

That there are real advantages in using these "Job-Proved" process aids is obvious from their extensive use in plants throughout the East, the South and Canada. For information about how they can help you produce better nylons faster, and more profitably, fill in the coupon below.

SUN OIL COMPANY, Dept. TW-9, Philadelphia 3, Pa.

We would like to consult a Sun representative in reference to ☐ coning oil, ☐ trough oil, ☐ wick oil.

Name_____

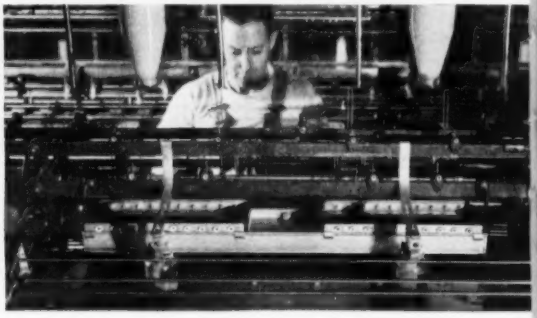
Title_____

Company_____

Street_____

City_____ Zone____ State_____

A COMPLETE LINE OF PROCESS AIDS. In addition to nylon-process aids, Sun Oil Company produces textile-process aids for use with wool, synthetics, blends of wool and synthetics, cotton and cordage. Sun's technical staff, backed by Sun's extensive research facilities, is at your service for consultation on any processing problem you may have.



WEAR HAS BEEN NEGLIGIBLE on needles and carrier tubes ever since a prominent knitter of 15 and 20-denier hose adopted Fibrlub 45 as his wick oil. He says that this product, though less costly, is superior in thread lubricating qualities to most of the oils he used before. It feeds readily through the wick and is delivered in sufficient quantity to the thread.

SUN INDUSTRIAL PRODUCTS

SUN OIL COMPANY, PHILADELPHIA 3, PA. • SUN OIL COMPANY, LTD., TORONTO AND MONTREAL

SUNOCO®

Know Your LABOR COSTS

▶ **You don't have to be a cost accountant or an industrial engineer to set up a cost system for your department.**

▶ **Just become familiar with the basic principles, as outlined in this complete example of a wool-scouring department, and you can then apply the ideas in your own mill.**

By MICHAEL J. KOROSKYS

Assistant Professor, Wool Department, Lowell Textile Institute

Step No. 1—

Classify, Describe, and Code All Jobs

You should have a complete description for every job so that you know exactly what each employee does. It is much better to have the description too detailed than to be too general in your definition. And be sure that you have a meaningful job title to go with the description. Titles should be short but clear.

For quick and accurate reference to jobs, you should give each job a code number. Five digits are usually used when jobs are coded on a mill-wide basis. The first two digits identify the department; the third digit classes the labor as direct, indirect, or clerical; and the last two digits identify the job. Code numbers are important—the incorrect charging of help is the reason that a lot of departments are always in the red on paper.

The accompanying example shows Step No. 1 applied to a wool-scouring department.

Step No. 2—

Determine Unit Standard Costs

Standard labor costs are often based on a set weight of the product. You can get the idea from these examples, as we continue our analysis of the wool-scouring department. (See table on page 111.)

Scouring-Machine Tenders

The estimated maximum production of the 4-ft. scour-

Job Title	Code No.	Work Load	Job Description
Scouring-Machine Tender	13102	One machine per man	Operates the machine, makes periodic checks of temperatures, and keeps records. Checks and records alkali content, adds soap and alkali according to specifications, cleans catch boxes under squeeze rolls.
Dryer Tender	13103	One dryer per man	Takes care of blower-pipe openings, loads and regulates oilers, cleans around machines.
Dirt-Shaker Tender	13104	Two men per machine	These operators get the droppings (heavy wool dirt) from the wool openers in the scouring line and run these droppings through this machine to salvage the wool shorts from the waste matter.
Dirt-Shaker—Tender's Helper	13108		
Duster Tender	13107	One machine per man	Used only on dirty or seedy wool. One man feeds the machine and delivers stock as required.
Scouring-Chute Tender	13109	13 men to 10 scouring machines	These operators blend the wool by slicing from top to bottom before loading on trucks or dropping into scouring-machine chutes. They must keep the Bramwell feeders at the scouring machines loaded at all times.
Head Scouring-Chute Tender	13275	One man	Supervises the scouring-chute tenders, contacts the wool shop, and makes records of lots and blends.
Fixers	13271	Two men to 10 scouring machines	Make repairs as necessary and assure proper running of the machines.
Soap Maker	13272	One man to the department	Procures ingredients from supply room, mixes soaps and alkali. Makes olive-oil soap for other departments and washes Abbott spools.
Baggers	13274		Remove wool from bins, place in bags, and jump to pack. When bag is full, sew up and remove to transfer space.
Head Grease-Machine Tender	13276		These degreasing men salvage wool greases from scouring machines.
Grease-Machine Tender	13105		
Grease-Machine—Tender's Helper	13106		
Head Scourer	13255	One man to second and third shifts	These men are the supervisors of the department in the absence of the overseer or boss scourer. For the first shift, the scourer handles all orders and records and is responsible to the overseer. The head scourers on the other shifts receive their orders from the scourer or overseer.

Teamwork

in the grease-pit can mean the difference between winning or losing the race. Through teamwork, success is more certain — in sport — in industry.

What can we do to help insure the future of your business? That's what Butterworth engineers have been asking for 131 years — the question has special meaning today.

Thinking of new machines? We will do the utmost to meet your requirements, within the limits of our metal allotments. Making long range plans? Our engineers are at your service. Even now they are teamed with many of America's leading mills, thinking of the years ahead and planning with them to maintain their competitive position.

Butterworth service is offered too, to help your wet finishing department get the most out of what you now have — to keep equipment at peak efficiency. It may be only a spare part you need — but if you need it in a hurry, you'll get it in a hurry if it is humanly possible.

A letter, a wire or a phone call will put a Butterworth engineer on your team.

H. W. BUTTERWORTH & SONS COMPANY

Bethayres, Pennsylvania

1211 Johnston Bldg., Charlotte, N.C. • 187 Westminster St., Providence, R.I.

Machines for Bleaching, Boiling-Out, Mercerizing, Dyeing, Finishing and Embossing : : Pot Spinning Machines for Synthetic Fibers
Calender Rolls : : Tenter Chains

BUTTERWORTH

ing train is 1,200 lb. per hr., on a grease basis. There are 10 machines that operate for a yearly average of two shifts, less 3 hr. each week for cleaning on the last shift.

The machines, therefore, operate 770 hr. per week and produce 924,000 lb. Twenty operators at $50 per week give a labor cost of $1,000.

$1,000÷924,000=$0.1082 per 100 lb.

Dryer Tender

One dryer can handle the capacity of seven scouring machines.

924,000 lb.÷20 scouring machines = 46,200 lb. per machine

46,200x7=323,400 lb. per tender

$47.28÷323,400=$0.0146 per 100 lb.

Dirt-Shaker Tender

One dirt shaker takes care of 15 scouring machines.

46,200 lb.x15=693,000 lb.

$50÷693,000=$0.0072 per 100 lb.

Dirt-Shaker-Tender's Helper

$47.28÷693,000=$0.0068 per 100 lb.

Duster Tender

Estimated production of the duster is 800 lb. per hr.

$1.182÷800=$0.1478 per 100 lb.

Scouring-Chute Tenders

Thirteen men feed 10 scouring machines.

$47.28x13=$614.64

$614.64÷462,000=$0.1331 per 100 lb.

Head Scouring-Chute Tender

$59.60÷462,000=$0.0129 per 100 lb.

Scouring-Chute Sweeper

$47.28÷462,000=$0.0102 per 100 lb.

Fixers

The two fixers each make $63.36, for a total of $126.72.

$126.72÷924,000=$.0137 per 100 lb.

Soap Maker

$47.28÷924,000=$0.0051 per 100 lb.

Baggers

Baggers are on piece work and constitute an average standard cost of $0.1800 per 100 lb. for hand bagging.

Degreasing Gang

It is difficult to measure performance accurately, but in 64 weeks this gang produced 533,226 lb. of grease. Total labor cost per week for the head tender, the machine tender, and the helper is $156.88.

$156.88x64=$10,040.32

$10,040.32÷533,226=$0.0188 per lb.

Head Scourers

The man on the second shift makes $85.52 and the man on the third shift makes $71.84 per week, for a total of $157.36.

(Note: the third-shift boss works as a scourer on the second shift except during peak periods when the extra shift is added.)

$157.36÷924,000=$0.0170 per 100 lb.

Step No. 3—

Make Your Standards Work for You

You now have your standard costs—their value depends upon how much you make them work for you.

For each period of production—day, week, or month—determine the cost of each type of labor used. Then compare the actual cost with the standard cost; that is, the pounds scoured multiplied by the unit cost. The breakdown of each occupation can be listed in a ledger showing the production, the actual cost, the standard cost, the gain or loss (with loss shown in red), and the percentage gain or loss. Additional columns are usually provided so that cumulative figures and their percentages can be shown.

If you follow the above procedure, you can tell at a glance which jobs lost money during the period, and you can also note if any trend is developing. Occasional dips may be caused by new help, machinery breakdowns, etc.—but repeated figures in red should get your immediate attention.

From your data you can usually make up a graph that will show gain or loss over standard cost by occupations or departments. A large graph of this type can be used on a bulletin board so that the employees will know what's going on.

All the records in the world are of no value if you don't use them. Set up a system of unit costs and have your clerk calculate actual vs. standard costs daily (or weekly). Then you can forget about the operations that are gaining or holding their own. You can concentrate on the ones that you see are costing you money. Plug those leaks, and you'll save needless hunting in the dark because someone says your costs are too high and you don't know where to look.

Typical Standard-Cost Summary

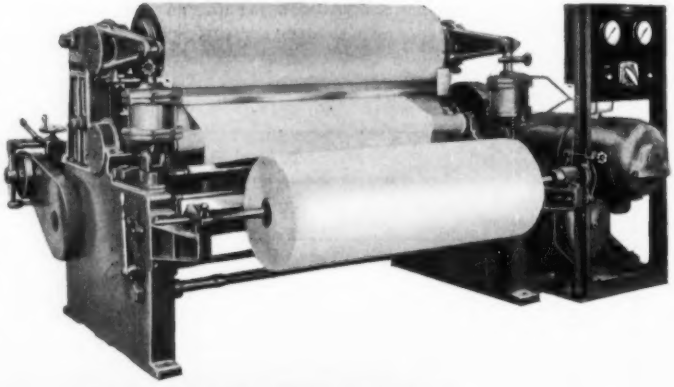
Code No.	Job Title	Base Pay		Unit	Production Basis
		Per Hr.	40 Hr.	Std. Cost	
13102	Scouring-Machine Tender	$1.250	$50.00	$0.1082	100 lb. (grease wt.)
13103	Dryer Tender	1.182	47.28	0.0146	100 lb. (grease wt.)
13104	Dirt-Shaker Tender	1.250	50.00	0.0072	100 lb. (grease wt.)
13108	Dirt-Shaker Tender's Helper	1.182	47.28	0.0068	100 lb. (grease wt.)
13107	Duster Tender	1.182	47.28	0.1478	100 lb. (dusted)
13109	Scouring-Chute Tender	1.182	47.28	0.1331	100 lb. (grease wt.)
13275	Head Scouring-Chute Tender	1.490	59.60	0.0129	100 lb. (grease wt.)
13277	Scouring-Chute Sweeper	1.182	47.28	0.0102	100 lb. (grease wt.)
13271	Fixers (2)	3.168	126.72	0.0137	100 lb. (grease wt.)
13272	Soap Maker	1.182	47.28	0.0051	100 lb. (grease wt.)
13274	Baggers	1.182	47.28	0.1800	100 lb. (bagged)
	Degreasing Gang	3.822	156.88	0.0188	1 lb. of grease
13276	Head Tender				
13105	Machine Tender				
13106	Helper				
13255	Head Scourers (2)	3.934	157.36	0.0170	100 lb. (grease wt.)

A GRAND OLD CHAMPION

John L. Sullivan, America's first world champion fighter, held his title for many years solely on his natural strength and ability to take punishment. Today he is known as "The Last of the Gladiators" because his style of fighting doesn't win championships against fast stepping and hard hitting boxers.

Almost every processing plant has a few old machines — champs in their day — that should be retired and replaced with modern equipment. How about padders? Van Vlaanderen has developed a superior Heavy Duty Padder and Resin Impregnator. Massively constructed and having many modern design improvements, this machine is built in every way to the Van Vlaanderen standard for greater production and finer quality of finished goods.

John Lawrence Sullivan (1858-1918) won his first fight at 19 from a carnival strong man. He was champion of the world from 1880 to 1892, when he was defeated by James J. Corbett.



This is a good time to study your dye house equipment with a critical eye. Why not ask our engineers to make suggestions for improvements?

VAN VLAANDEREN MACHINE COMPANY

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Southern Representatives: Parrott and Ballentine

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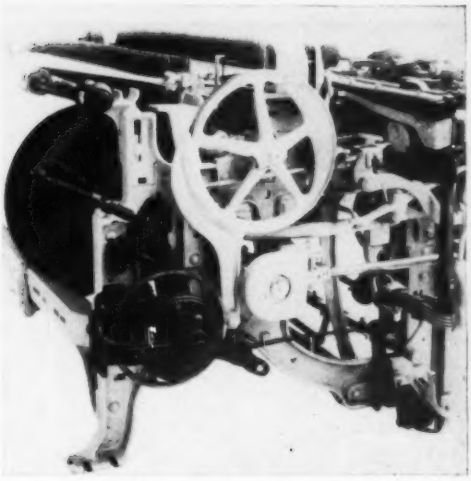
WORLD'S LARGEST MANUFACTURER OF MACHINES FOR PROCESSING MODERN FABRICS



THIS ROPER LET-OFF of 1914 is basically the same as the let-off today. This model is not equipped with the vibrating whip roll that is standard today.

THE LOOMFIXER is preparing to recondition this let-off while the warp is out of the loom. After he has completed the job, the let-off should be trouble-free for 1 yr.

Fix Your Roper Let-Off To STOP WAVY CLOTH

▶ You will stop most of your barré cloth when you check your Roper let-offs once a year by the method given here. Know that your let-offs are in good mechanical condition, and have your loomfixers free to work on increasing production.

By W. C. WESTBROOK, Consulting Editor, TEXTILE WORLD

What Is the Roper Let-off?

The Roper let-off was invented by W. F. Draper and Charles F. Roper, and they were granted a patent on April 17, 1900. There have been some modifications and improvements, but the basic principles of this let-off have been the same for over 50 yr. The Roper let-off is an efficient mechanism that requires little attention and repair for dependable operation. This let-off may be set up so that, once the desired warp tension is obtained, the tension itself regulates the speed of the entire mechanism to maintain the correct warp tension.

How To Check the Let-off

If there is no breakage of parts, a complete overhaul once a year will keep the Roper let-offs in good condition. To overhaul the let-off, remove the warp-yarn beam and take the entire let-off assembly from the loom. Clean the parts with a cleaning solvent and examine each part closely for worn, broken, or defective parts before the let-off is replaced on the loom.

The yarn-beam pinion should fit the let-off pinion shaft tightly; if it does not, the pinion will be forced off-center when the key is driven in the keyway. Alternate deep and shallow meshing of the teeth of the yarn beam and those of the yarn-beam pinion will result from this condition, and wavy cloth will be woven. Worn or broken teeth in the pinion will also cause wavy cloth.

The let-off pinion shaft should fit snugly in the let-off shaft bracket but should revolve freely. If the bore of the bracket is worn, the bracket should be reamed out and bronze or Oilite bearings inserted in the bracket.

Place an empty yarn beam in the yarn-beam bearings and properly mesh the teeth of the pinion with those of the yarn beam before the let-off pinion-shaft bracket is tightened. The pinion should not bind against the rim of the warp-yarn beam head.

Inspect the Parts

The beam lever, the beam-lever shaft, and the beam-lever-shaft bracket should be cleaned and inspected. The beam-lever shaft is easily replaced if worn. The bore of the beam-lever-shaft bracket can be brushed by the

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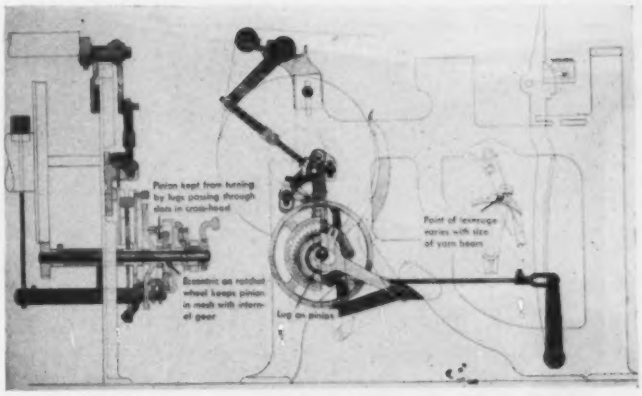
same method used to bush the let-off pinion-shaft bracket.

The beam lever should operate freely for the entire length of its stroke, since this lever regulates the length of stroke of the pallet lever. As the amount of yarn on the warp beam decreases, the length of stroke of the pallet lever increases and causes the same amount of yarn, under the same tension, to be delivered from a full beam as is delivered from one that is almost empty.

Inspect the vibrating whip roll, the whip-roll shaft, and the whip-roll bearings. Oilite bearings can be effectively used here to increase the efficiency of the parts and to help keep oil spots off the yarn.

The vibrator rod should be straight and should not bind in the vibrator-arm bracket or on the vibrator-arm stud. The vibrator-rod springs, washers, and collars should be in good condition. Closely inspect the vibrator-rod collars and setscrews, and see that the threads are in good condition. These parts are important because their condition and settings govern warp tension.

The controlling level and controlling-lever link should operate freely, with no binding of parts. One point that causes a lot of trouble on the older-type Roper let-off is the connection between the controlling-lever link and the controlling-lever link arm.


Pinion kept from turning by lugs passing through slots in cross-head
Eccentric on ratchet wheel keeps pinion in mesh with worm-el gear
Lug on pinion
Point of leverage varies with size of yarn beam

THE CROSS SECTION of the let-off shows how the let-off parts are correlated to each other. As the warp is exhausted, the beam lever changes the pallet movement.

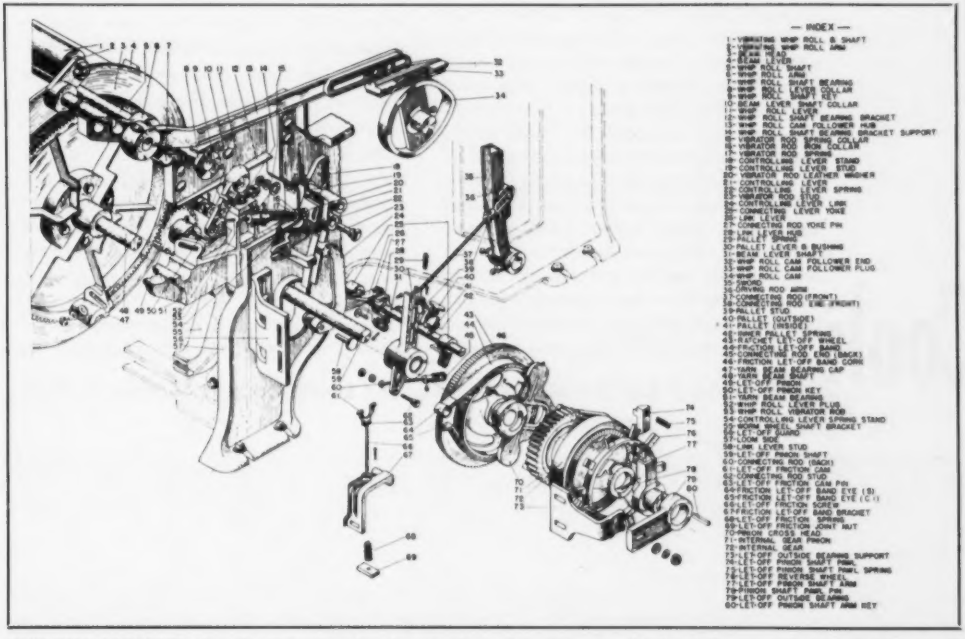
The stud on the controlling-lever link arm and the link are held together by a cotter pin. Constant vibration and abrasion frequently cut this pin and let the link fall from the arm. This breakage makes the beam lever inoperative.

A non-turning washer placed between the pin and link will often prevent breakage. If the stud is replaced with a bolt, any further trouble from this source will be eliminated.

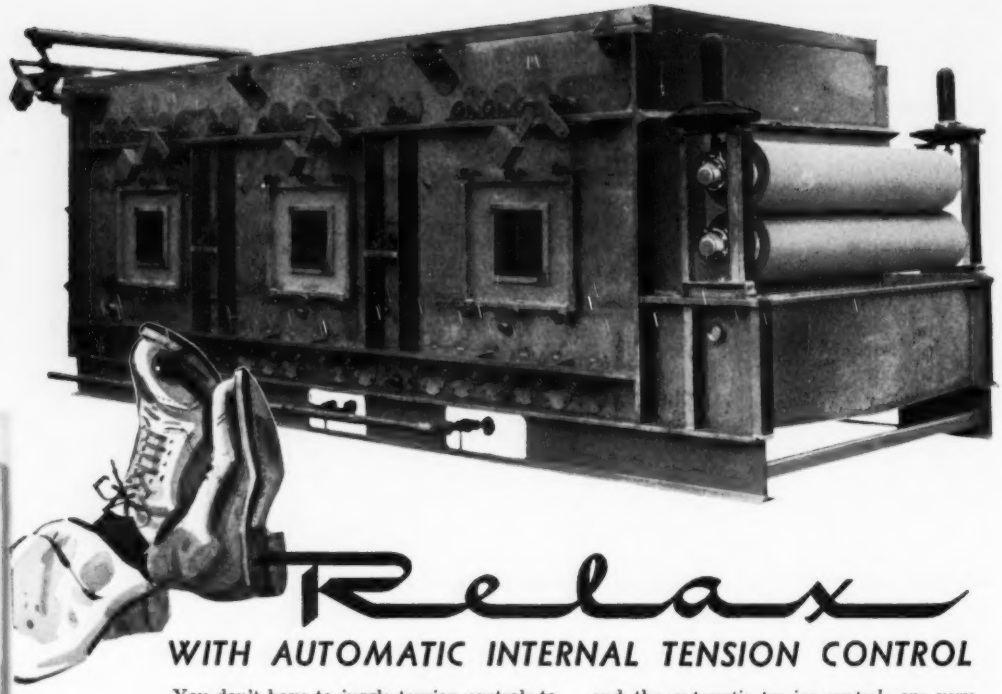
The pallet lever has a plain bushing that fits over the let-off pinion shaft. The pallet lever should have no lost motion or side play, and the controlling-lever link should slide freely for the full length of the slots inside the pallet lever and the controlling lever.

The connecting rod should not rub or bind at any point. With the lay in

(*Continued on page 256*)



HAVE YOUR LOOMFIXER place this illustration where he can refer to the part names and order of placement when he rebuilds a let-off.



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WITH AUTOMATIC INTERNAL TENSION CONTROL

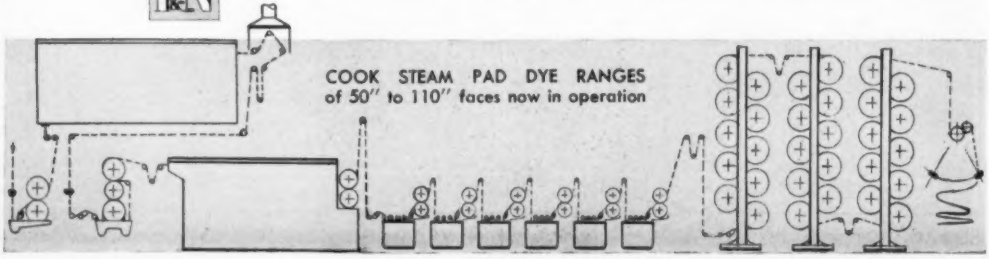
You don't have to juggle tension controls to keep the cloth from stewing on the bottom or tearing in tight folds. The Automatic Internal Tension Control* of Cook Steamers adjusts itself for fine rayons or heaviest fabrics without human aid. It protects all weight fabrics, even fragile synthetics, during high speed processing. The cloth is always held wrinkle-free, *open and suspended*. The speed of the internal rolls is automatically synchronized, in fact, even the dye padder is in synchronization when the steamer is part of a Cook Steam Pad Dye Range. Many million yards of rayon dress goods, broadcloths, corduroys, work clothing, wide sheeting and even cotton and wool blankets have been processed through Cook Ranges. A nationally known mill writes, "Your steamer is still doing a good job for us and the *automatic tension controls* are very satisfactory." This machine has an entrance seal which really seals, a steam-heated ceiling which really eliminates drip and provides uniformity of steam conditions. It can be supplied in any length box, any width face for speeds up to 150 y.p.m. It can also be used for continuous desizing of rayon or cotton.

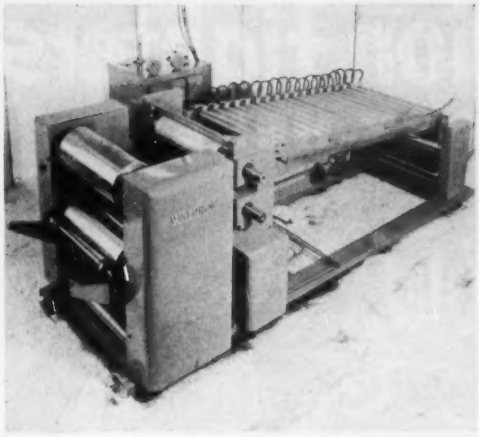
By fabricating stainless steel in our own shops, you can have design flexibility without premium cost. It also eliminates broken castings and factory made parts. All machines are guaranteed to perform as specified. Your request for information will receive prompt attention.

***Automatic Internal Tension Control (Pat. Pend.) is also available with Cook Print and Acid Agers.**

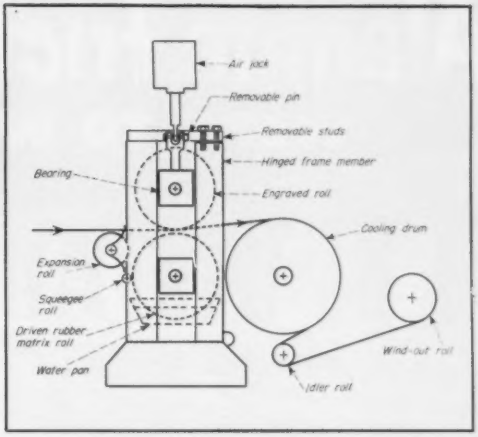
Cook

COOK-P & N MACHINE CO., INC., 365 Dorchester Ave., Boston 27, Mass.





THE PRE-HEATING UNIT incorporated in this Waldron embosser fits it for use either in a range or as a unit process.



A LOW-PRESSURE EMBOSSING UNIT includes a roll-cooling system to prevent heat build-up during runs.

Temperature and Pressure Techniques Can Make or Break—

The Embossing and Printing of COATED FABRICS

By THOMAS J. KERR
Coated-Fabrics Consultant

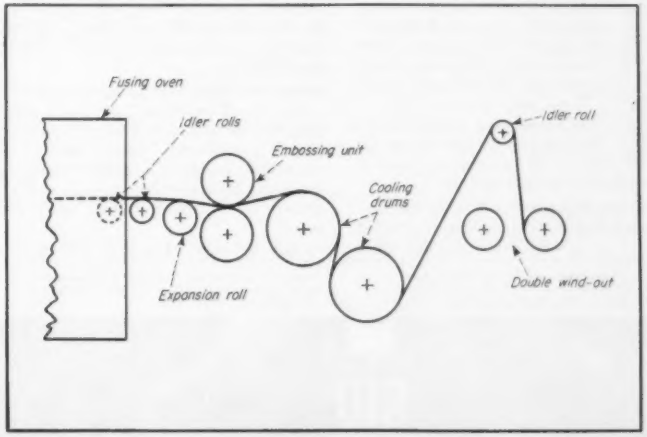
THE TECHNIQUES of embossing vinyl-coated fabrics have been gradually developed until it is now possible to obtain almost any desired effect in design. It is primarily a molding operation and can only be accomplished satisfactorily when the resin compound is heated to its softening point, about 350° F. The softening point will vary with the type of resin used for the coating as well as with the type and amount of plasticizer used.

Heat Is Essential

Pyroxylin coatings can be deformed by pressure, and coatings of this type will flow into the design of the embossing roll or plate at temperatures far below the softening point if sufficient pressure is applied. Such deformation is permanent in character. In the early stages of vinyl-coating development, it was found that available equipment for roller embossing could not produce a permanent impression, even with maximum pressure. Press embossing was more successful. If the time of dwell were increased materially, and if the plate were heated as hot as possible, some permanent grain could be produced. This effect was caused by the temperature of the coating being brought gradually to the flow point by prolonged contact with the heated plate.

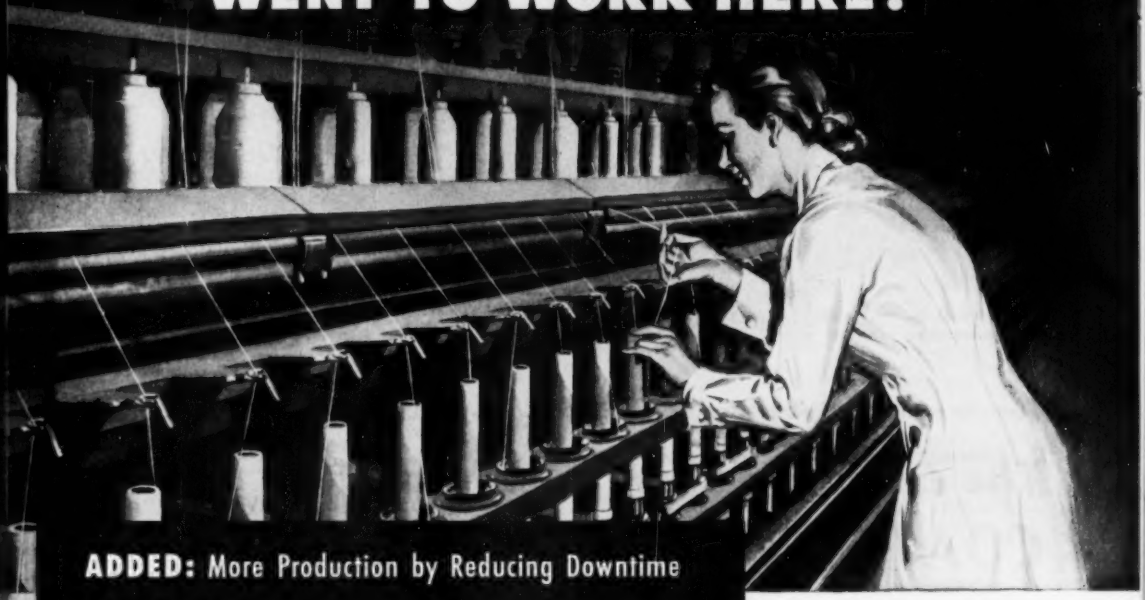
The next step was to preheat the coated fabric, and this procedure was found to be the key to successful embossing of vinyl on either roll or press equipment. While press embossing

(Continued on page 278)



TANDEM EMBOSSING SAVES TIME, handling, and labor. Fusing heat is used to preheat for the embossing operation.

Alemite "Friction Fighters" WENT TO WORK HERE!



ADDED: More Production by Reducing Downtime

ELIMINATED: Product Spoilage Due to Oil Stains

SAVED: A Total of $6740 Per Year

In a leading Southern Textile Mill, machinery lubrication was posing more than its share of particular, costly problems. Oil stains, for example, were necessitating extensive reprocessing of finished mill pieces . . . proving troublesome . . . time-consuming . . . expensive. Was there an easier, more economical way to guard against friction's wear and tear?

To provide an answer, a trained Alemite "Friction-Fighting" specialist was called in to work with the plant engineers. After careful study, he recommended that an Alemite Mechanized Lubrication System be installed and tested on one machine in the mill's important Finishing Range.

Since that time, reprocessing of pieces—due to oil stainage—has been eliminated. Production has been increased through reduced "downtime." The amount of lubricant required has been far lower than ever before. And overall there is an estimated saving of $6740 per year!

You can get similar results! No matter what size or type of plant you operate, an Alemite Lubrication Engineer can show you dozens of ways of making worthwhile savings through more efficient handling of petroleum products. These are facts which you can readily confirm in your own time studies. The Alemite man will cooperate fully with your plant engineers in setting up a test. Contact your local Alemite Industrial Distributor, or mail coupon below—today!

Alemite cordially invites you to visit Booth 405, Southern Textile Exposition, Textile Hall, Greenville, S.C., October 6 through 11.

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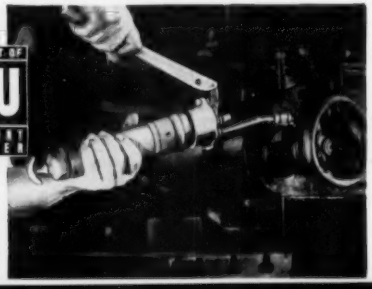
Combining strength with light weight, Alemite hand guns assure powerful, volume delivery of lubricant—with less work, in less time!



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☐ Include Facts on OIL-MIST—the amazing new system that atomizes oil, circulates it to bearings under pressure.

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TEXTILE Equipment NEWS

Small-Model "Gentle-Air" Dryer Dries up to 750 Lb. per Hr.

A smaller, Model-B Uxbridge "Gentle-Air" slasher-drying unit that can be operated in conjunction with the front and back ends of any conventional slasher, new or old, has been brought out by Bachmann Uxbridge Worsted Corp., Uxbridge, Mass. It is designed for mills that do not require the drying capacity of the Model A, which dries up to 1,250 lb. per hr.

The Model B is approximately 14 ft. long, 10 ft. wide, and 8½ ft. high. It will dry up to 750 lb. per hr., depending on yarn counts and the number of ends. Very uniform drying is said to be obtained with the unit. Roll laps in the dryer are practically non-existent.

The new model slasher-dryer can handle section beams up to 72 in. between heads. Operation of the whole unit is simple and completely automatic.

"MODEL-B" DRYER is approximately 14 ft. long, 10 ft. wide, and 8½ ft. high. It can handle section beams up to 72 in. between heads.

How the Unit Works

Drying under the "Gentle-Air" principle is accomplished by means of heated air passing through the yarn. The moisture-laden air is exhausted; and at the same time clean, fresh air is introduced to continue the drying cycle. From 70 to 80% of the air is reheated and reused.

Only 15¾ yd. of yarn are in the dry box of the unit at any one time. Newly designed nozzles reduce the air velocity generated at the fan and distribute it in an even pattern through the yarn sheet. The yarn is dried without rolling; thus lapping is eliminated.

The unit is so designed that the yarn is 60 to 70% dry before the first contact is made inside the drying box, and so it has lost its tackiness. The yarn is not flattened out but remains round and undistorted. Any spun fibers—alone or in blends—can be handled, with any type of sizing material.

Other Advantages

A high margin of safety is cited by the manufacturer. The explosion factor is at a minimum because of the elimination of dry cans. As insulation has been planned for both efficiency and employee comfort, very little heat escapes into the slasher room.

When for any reason the slasher is stopped off, the drying box cools in a matter of seconds; thus yarn damage from exposure to high temperatures for too long a time is avoided. In addition, all parts of the unit are readily accessible so that the new model lends itself to easy cleaning.

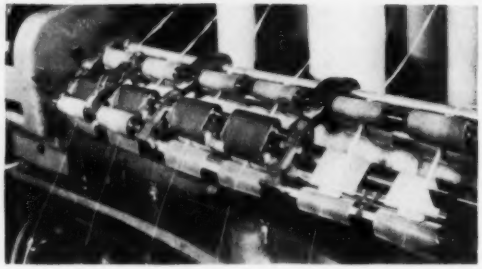
The "Gentle-Air" Model-B slasher-dryer will be shown for the first time publicly at the Southern Textile Exposition at Greenville, S. C., next month.

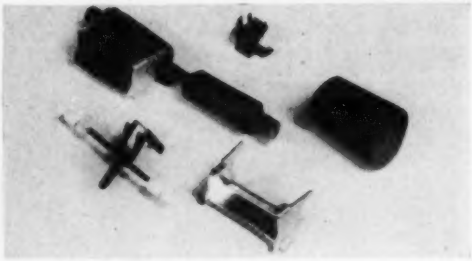
Three Yarn-Processing Improvements Announced by Saco-Lowell Shops

1. **Duo-Roth Drafting Units**
2. **New Era Filling Spindle**
3. **FS-3 and FS-3W Roving-Drafting System**

1 The Duo-Roth drafting element has been brought out as an improvement to increase fiber control and allow higher drafts than are possible on the original Roth drafting element. The Duo-Roth is easily and quickly applied to existing Roth drafting units at a minimum of expense and with the least amount of frame stoppage.

The changeover converts the Roth single-belt unit into a double-belt drafting system, with the top belt or apron replacing the standard Roth middle top roll and control roll. Specifically, the changeover consists of a Torrington needle-bearing middle top roll, two cages, two top synthetic aprons, two bottom synthetic aprons,





Duo-Roth Drafting System

a condenser assembly, and a hold-down spring for the cages. These parts will equip two spindles.

The new top rolls and cages that replace the Roth middle top roll and control roll can be fitted on the frame without breaking down the ends if the frame is already equipped with synthetic bottom aprons.

Advantages of the Duo-Roth components over other double-apron systems include: (1) ready accessibility for cleaning, (2) ability to handle the entire range of long- and short-staple cotton fibers, (3) ability to maintain a tight bottom apron, (4) freedom from fly and lint trouble inside the apron, and (5) new draft gearing, originally designed for Shaw spinning, which gives the maximum in drafting range.

2 **The New Era filling spindle,** since the filling bobbin has to fit into a loom shuttle, is necessarily of small diameter. Consequently the filling spindle does not adhere to the New Era warp-bobbin principle of supporting the sleeve that carries the package between two top and bottom antifriction bearings, for an antifriction bearing that would fit into such a restricted space as the top of a filling spindle would be so small that it would not be able to maintain today's high speeds and relatively heavy loads.

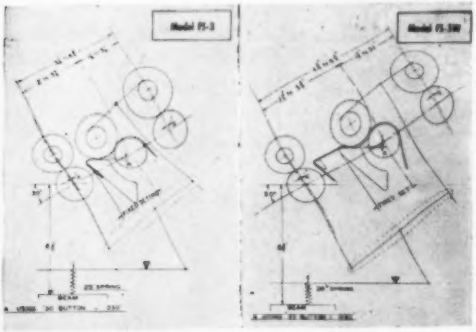
Instead, the main shaft is shorter; and it is the main shaft that mounts the two antifriction bearings, while the top of the spindle itself is solid. The top bearing is located near the shoulder above the top flange of the whorl; and the bottom bearing is located just inside the lower end, at about the center of the tape pull. The shorter distance between bearings on the filling spindle is reported to be entirely adequate for the lighter loads of filling spinning.

Otherwise the New Era warp-bobbin principles are followed. The conventional type of rubber mounting is used, and there is the simplified method of spindle plumbing. The old-fashioned oil routine and yarn-staining possibilities are eliminated. And power savings resulting from the antifriction construction are standard.

The manufacturer states the New Era filling spindle will not be available in quantities for at least 6 mo.

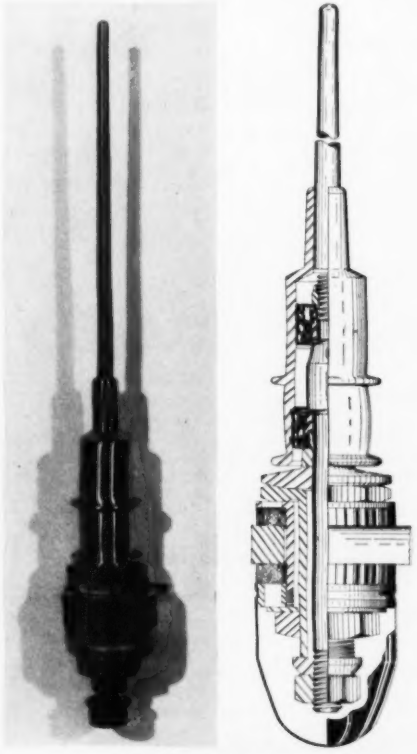
3 **The FS-3 and FS-3W drafting systems** for roving, modifications of the FS-2 system, do not limit drafting of staple lengths up to 2½ in., but process the synthetics, with complete fiber control, up to 3 in.

The main difference between the FS-2 and the FS-3 is that the roll stand has been lengthened on the latter,



FS-3 Drafting System

FS-3W Drafting System



New Era Filling Spindle

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Specialty TUBES

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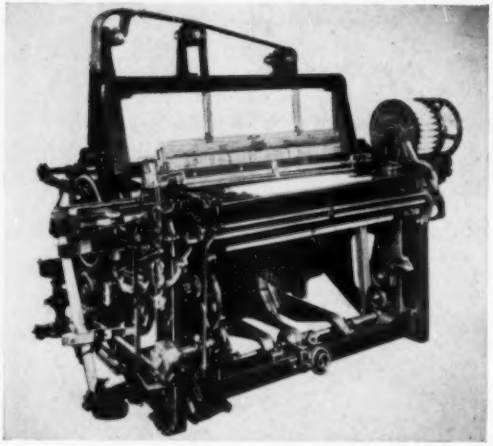
and provision has been made so that an auxiliary apron bar may be used. And if the auxiliary bar is added, the FS-3 becomes the FS-3W drafting system for synthetic fibers from $\frac{7}{8}$ to 3 in. The auxiliary apron bar can be used only when the roll spread from the front to the middle bottom steel rolls, center to center, is 2 15/16 in. or over.

As the 2 15/16-in. setting and above, greater fiber control is obtained with the auxiliary apron bar, which acts as a carrier for the fibers in the front zone, forward to the nip of the front rolls.

The manufacturer recommends using the FS-3W system auxiliary bar in drafting synthetic fibers $2\frac{1}{2}$ in. in length or over.

Three lengths of saddles, wide and narrow clearers, and a 25-lb. top-roll weighting pressure are available for the different staple lengths draftable on the two new systems.

Hunt Builds Two New Heavy-Construction Looms



HEAVY SIDES are one of the features of the two new Hunt looms that are now available. This one is the HC50, which is designed for continuous production at high speeds of heavy cotton fabrics up to 64 in. wide.

Two new cotton looms, the HC50 and the HL16, have been made by Hunt Loom & Machine Works, Inc., 200 Academy St., Greenville, S. C. Both looms feature heavy construction in the sides, and both are furnished with the improved Hunt spreader that has four bearings to stabilize the crankshaft and two additional bearings on the camshaft.

The HC50 loom permits operation at a high speed with continuous production. Other features include:

1. The weaving of heavy fabrics up to 64 in. wide.
2. The Hunt No. 8 individual-motor drive with demountable gear
3. Roll and shaft, or Brown spring-top harness motion, or 20-harness dobby
4. A crankshaft diameter of $1\frac{3}{4}$ in. A camshaft diameter of 1 15/16 in.
5. Single or double side-filling stop motion, or a center-filling stop motion

The HL16 incorporates:

1. Lighter constructions of cotton fabrics up to 60 in. wide
2. The Hunt No. 1 drive
3. Roll and shaft, or Brown spring-top harness motion, or 12-harness dobby
4. A crankshaft diameter of either $1\frac{3}{4}$ in. or $1\frac{3}{4}$ in. A camshaft diameter of 1 9/16 in.
5. Single or double side-filling stop motion

Both the HC and HL looms have numerous features in common that insure trouble-free operation, the builder reports:

1. Beam heads through 26-in. dia.
2. Midget feeler (optional)
3. Stafford thread cutter No. 21 or 23
4. Bobbin lengths of $7\frac{3}{8}$, 8, and $8\frac{3}{4}$ in.
5. High-roll take-up with worm or nutting bar
6. Roper, Bartlett, or friction let-off
7. Vibrating, revolving, or Durkin-type whiproll
8. Drag rolls (optional)
9. Electric warp-stop motion of 2, 3, 4, or 6 banks
10. Camshaft- or auxiliary-cam motion
11. Latest-type motors, furnished to specifications
12. Cut-teeth gears except for the let-off pinion.
13. Plain or tape selvage motion

New Railway-Type Sewing Machines Have Automatic Controls

Two new railway-type sewing machines that have automatic controls to increase production have been brought out by Dinsmore Mfg. Co., 288 Derby St., Salem, Mass. They are known as Model 11-C and Model 11-B.

Model 11-C is electrically operated by a three-button control switch to start, stop, or reverse the traveling head. The operator has instant control of the sewing because the push button travels with the motor, and the motor is controlled through magnetic switches.

Model 11-B is equipped with a two-button control that has all the features of Model 11-C except the power reverse. The sewing head and saddle are returned to the starting position by hand.

Both machines are built to sew any width of fabric and to stitch any style of fabric manufactured. They can be equipped with the Merrow butted-seam sewing head or the Dinsmore single chain-stitch type of sewing heads (Type 3-R with power reverse and Type 3-W without the reverse). And for open-construction fabrics, like cheesecloth or lace, the machines are equipped with the 4-A or 4-B oscillating-looper sewing heads.

Model 11-C Details

On Model 11-C, all bars, levers, and parts for mechanical control have been eliminated to reduce the cost of maintenance and to give a more positive drive and positive stop during sewing.

At the end of the seam, sewing is stopped automatically by a limit switch. The reverse button returns the sewing head to the starting position, which procedure allows the operator time to make up the ends of fabric for the next sewing. When the head reaches the starting position, it is stopped automatically. The sewing unit remains idle while the head is traveling in reverse. The clutch on the travel-

Outstanding Performance

For superior knitting day in and day out, you can depend on Textile Spring-Beard Needles. They are strong at every crucial point — the butt, the beard, the shank. A special steel formula, proper tempering for ideal resiliency, and Textile's rigid scientific controls — automatic and electronic — are your assurance of a finer fabric and lower production costs.

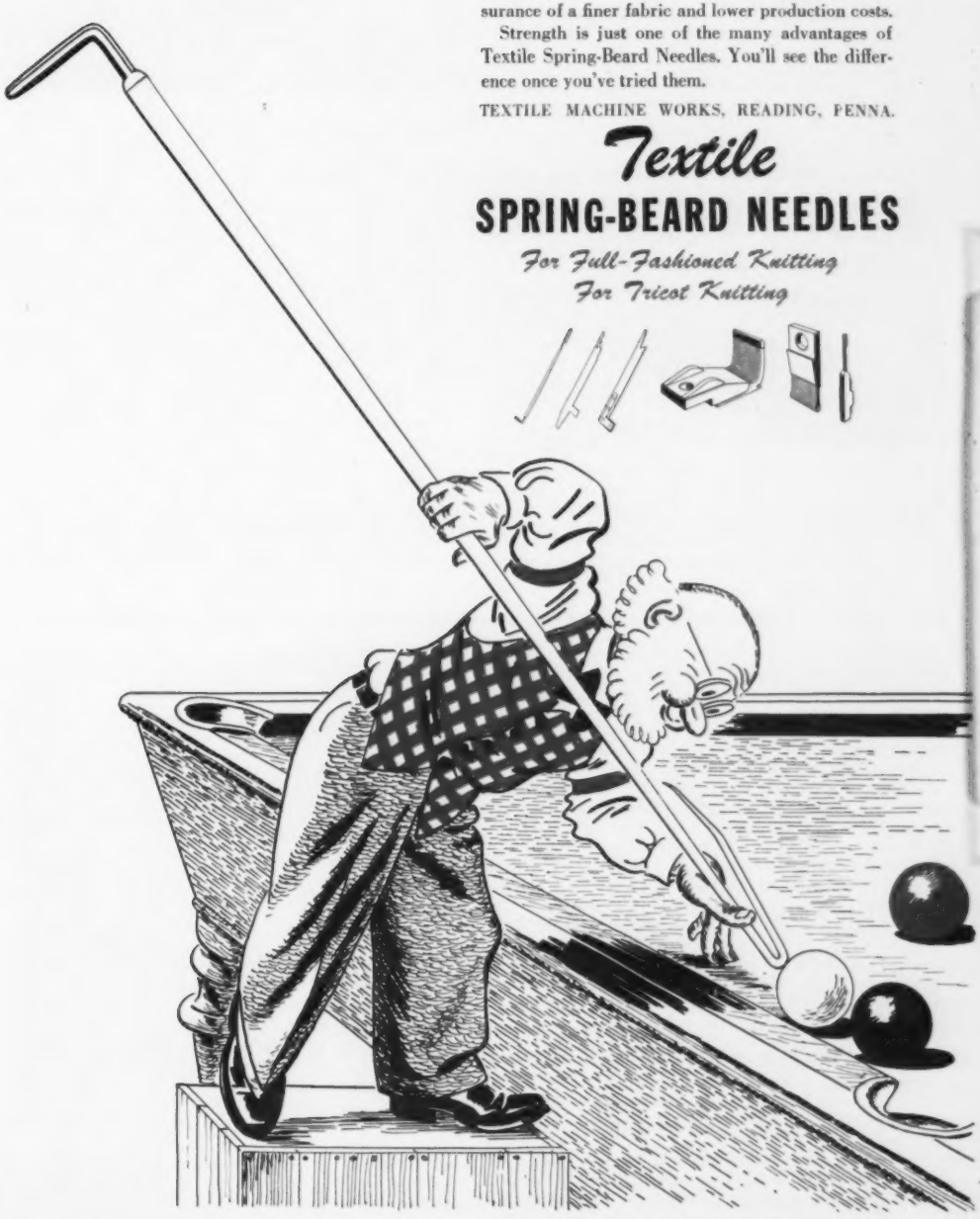
Strength is just one of the many advantages of Textile Spring-Beard Needles. You'll see the difference once you've tried them.

TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

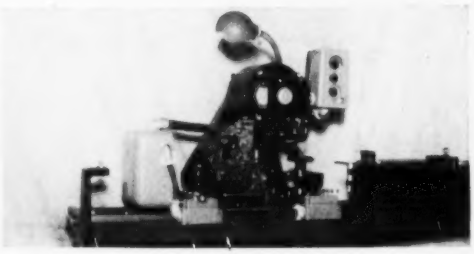
For Full-Fashioned Knitting
For Tricot Knitting



For more information, write direct or use Reader Service post card.

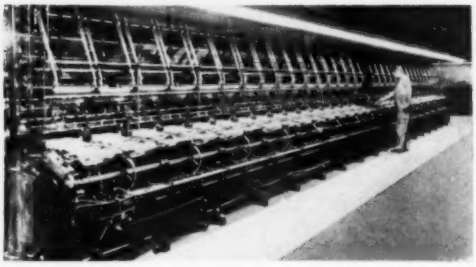
ing head permits the operator to reverse the direction by power or by hand.

A new guard has been incorporated to cap the pins on the cloth stretcher for the operator's safety. And a new electric cable control at the back of the machine folds out of the way automatically and eliminates dragging.



AUTOMATIC CONTROLS have replaced mechanical controls on the new railway-type sewing machines brought out by Dinsmore Mfg. Co. Adjustments on the sewing head are possible without removing the head from its base. Two new models will be shown at the Southern Textile Exposition in Greenville, S. C., in October.

32-Section 66-Gauge Machine Knits Better Nylons Faster



PRODUCTION RATE of the new Lieberknecht 66-gauge full-fashioned knitting machine is approximately the same as for the older 60-gauge machine as far as number of stockings produced per day is concerned.

To meet the current trend to finer, more snag-resistant stockings, Karl Lieberknecht, Inc., Reading, Pa., has brought out a new 32-section 66-gauge full-fashioned knitting machine for women's nylon hosiery.

The new long-section machine is designed to produce a finer-textured fabric at high production levels, about 80 courses per min., which speed is approximately the same as on the company's 60-gauge machine. This speed on a 66-gauge unit thus offers hosiery mills the chance to knit stockings with more loops with no sacrifice in production in dozens per hour.

The first of these machines is now in operation and production at Chipman Knitting Mills, Easton, Pa. Lieberknecht expects to go into increased production of the 66-gauge machine this fall, with the number of machines to be produced depending on the raw-materials supply situation in the months ahead.

Soft-Package Attachment for Winding Synthetic-Yarn High-Pressure Dye Packages

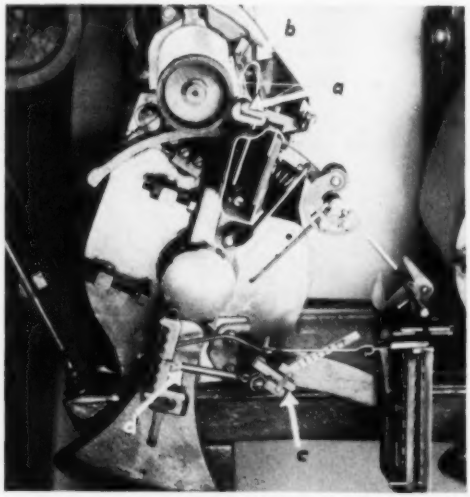
A soft-package attachment for winding synthetic yarns onto 1⅝-in. dye tubes at spindle speeds up to 1,050 rpm. on No.-50 Precision winders has been made available by Universal Winding Co., Box 1605, Providence, R. I. The attachment is particularly suited for winding dye packages that go into high-pressure dyeing systems.

Delivery of the yarn should be from cones or an equally free-delivering type of supply. Starting tension can be as low as two grams if the yarn being used delivers freely enough from the package supply. Then the attachment takes over to give a very close control over winding tension; and as a result, soft packages of proper density can be obtained from every spindle.

The attachment consists of a roller-bail assembly (*a*), a "close-to-package" guide (*b*), a lightweight tension lever (*c*), and a spring arrangement for adjustment of the pressure (*d*). It is the roller bail rather than the guide that contacts the surface of the package during winding, and so pressure is evenly distributed over the entire length of the yarn mass that is wound on the dye tube.

The new attachment can easily and inexpensively be applied to Universal No.-50 winders already equipped with pineapple coning attachments. The traverse-frame back and the roller-bail assemblies already on these machines can be used by removing the rest of the pineapple coning attachment.

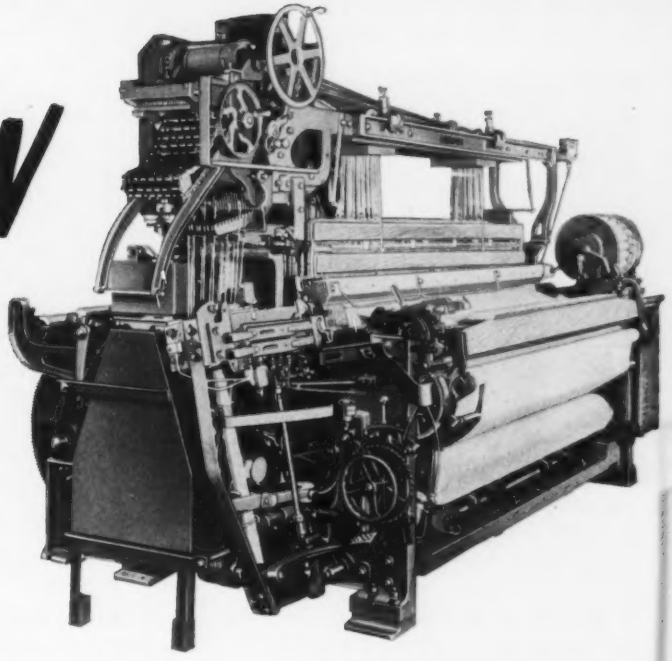
The manufacturer recommends use of the soft-pressure attachment on No.-50 winders that are equipped with a 2½-wind gear-gain mechanism.



BETTER DYEING of synthetic yarns wound on No.-50 winders, because of this new soft-package attachment, is now possible. Close control is kept over winding tension to obtain proper-density packages from every spindle.

The NEW XD

with the



2 x 1 FILLING MIXING MECHANISM

- **ELIMINATES**

  The unevenness in cloth due to variations in filling.

- **RANGE OF FABRICS**

WOOL BLENDS	GABARDINES
DACRON	PLAIN OR FANCY TROPICALS
ORLON	SERGES
NYLON	CROSS DYES
RAYONS	PIECE DYED WORSTEDS
ACETATE	SHEENS

The new Draper XD model loom is now available with:

- 2 x 1 Box Motion
  OR
- Single Shuttle
- W-2 Worsted Head
  OR
- Dobby

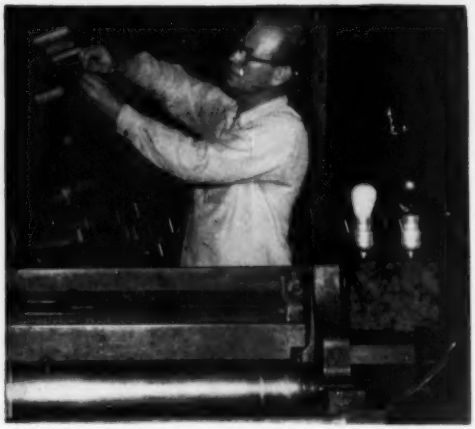
Conventional widths up to 80" reed space to give 72" cloth off the loom. Yarn Beam can be furnished up to 32" Dia.

DRAPER *Corporation*

ATLANTA, GA. HOPEDALE, MASS. SPARTANBURG, S. C.

THE WORLD'S LARGEST MANUFACTURER OF AUTOMATIC LOOMS

Automatic Start Motion Saves Steps, Cuts Downtime



AUTOMATIC START-UP after a broken end has been repaired can save operator steps and increase production on several types of textile machinery. Everette Spencer, inventor, shown above, has been using the device successfully for several months in his mill.

An automatic Start-Stop controller for textile machinery such as beamers, winders, slashers, looms, and knitting machinery has been invented by Everette J. Spencer of Rockford, N. C., and has been in successful operation for several months locally. The device (on which patents are pending) incorporates remote-control features that allow machines to start up again immediately and automatically after the repairing by the machine tender of a yarn break or run-out.

When an end breaks or runs slack, or a cone runs out of yarn, the machine stops as usual and a red lamp lights up. The operator goes back into the creel section and repairs the end, takes up the slack, or replaces the empty cone. Immediately, without the operator's returning to the control panel, the red light goes out, and a green lamp lights up as the machine automatically starts running again.

Thus the mechanism eliminates the need for walking to a Start button and pushing it, and downtime is cut materially.

The mechanism operates through a relay switching setup that has been designed to be fireproof and shockproof. Provision is made in the mechanism for installing on each eyeboard in the creel pilot lamps that light up when an end breaks. This arrangement simplifies the finding of broken ends or run-outs.

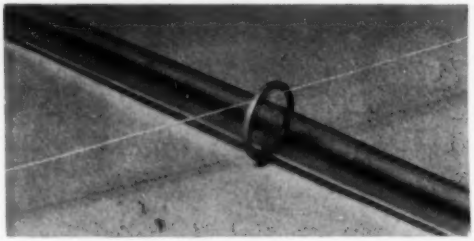
Temperature Measurement Obtainable On Nylon Fabrics Being Finished

A "radiamatic pyrometer" device that measures the actual temperature of nylon fabric during finishing—instead of just the air surrounding it—has been developed by Industrial Div., Minneapolis-Honeywell Regulator Co., 4509 Wayne Ave., Philadelphia 44, Pa. A low-range temperature measurer, it has already taken the guesswork out of nylon-finishing operations in half a dozen United States and Canadian mills, according to the company.

In operation, what is measured is the radiated heat energy from the cloth as it passes by. This exact measurement is obtained by the focusing of this radiation through a lens onto sensitive elements, much the same way sun's rays are focused through a magnifying glass. This temperature taking can be done from as far away as 1 ft.—an important consideration in an operation where it is impractical to make physical contact.

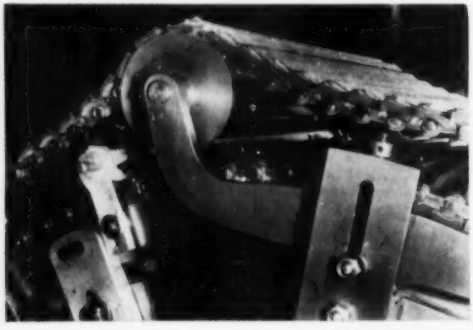
In addition to the finishing of nylon fabrics, another successful application is said to be in resin-curing operations.

F.-F.-Machine Float Rings Eliminate Nylon-Yarn Wear



YARN MOISTENING on full-fashioned hosiery machines doesn't mean splashovers and cut floats any more when these float rings are used. The yarn runs through the rings at an angle and turns the ring constantly, so the moistening agent is brought up to the yarn going through. The rings are manufactured by American Lava Corp., Manufacturers Rd., Chattanooga 5, Tenn.

Synchronized Clearer Brush Cleans Between Flats and Flat Ends



A circular brush with six rows of tufts on it that passes over the full length of card flats has been developed in England by Hilton's "Champyon" Brushes Ltd., Cheetham's Mills, Park St., Stalybridge, Cheshire. The brush has adjustable brackets shaped like a hook so that instant brush removal is possible for cleaning purposes.

Each row of bristles cleans between two flats as the flats move. At the same time, the brush projects far enough out to keep the flat ends clean.

The brushes are said to last a long time if they are reversed each time they are cleaned so that wear can be evenly distributed over the bristles.

REVERSIBLE BRUSHES clean between the flats on a card and also the flat ends. The brushes are adjustable and easily removed for cleaning.

For Your High-Purity Process Needs···

Specify B&A FINE and SPECIAL CHEMICALS

The following are but a few of the many B&A Fine Chemicals available in tonnage quantities for high purity process use. They are charted to indicate some of the major industries in which they are used.

CHEMICAL	Battery	Chemicals	Dyes & Intermediates	Electronics	Explosives	Food	Glass & Ceramics	Iron & Steel	Leather	Metal Fabricating & Finishing	Mining & Metallurgy	Oil Refining & Petroleum	Paints & Pigments	Pharmaceuticals	Photography	Plastics & Resins	Pulp & Paper	Rubber	Soap & Detergents	Textiles	Water Treatment
Acetamide		●	●										●			●					
Acid Fluoboric	●	●		●			●	●	●	●	●	●			●						
Acid Hydrofluoric, Reagent		●		●			●			●	●										
Alkali Fluoborates							●	●		●	●										
Aluminum Chloride, Solution		●	●			●	●		●	●	●	●	●	●		●	●	●	●	●	●
Aluminum Fluoride, Crystal		●								●		●		●							
Aluminum Nitrate		●		●								●							●		
Ammonium Acetate						●				●		●		●				●	●		
Ammonium Oxalate			●		●				●	●			●	●			●	●	●		
Ammonium Sulfate Purified and Reagent A.C.S.	●	●				●	●		●	●				●		●	●			●	
Ammonium Thiosulfate				●					●	●				●	●				●		
Boron Trifluoride Gas and Various Complexes		●								●	●	●	●	●		●		●		●	
Cadmium Nitrate	●	●		●			●					●	●			●					
Calcium Acetate Purified and Reagent		●				●							●	●		●		●	●		
Calcium Chloride, Anhydrous Purified and Reagent A.C.S.				●		●										●					
Calcium Phosphide					●						●										
Chlorine Trifluoride		●														●					
Chromium Fluoride		●	●							●			●							●	
Chromium Nitrate		●														●					
Chromium Potassium Sulfate (Chrome Alum)		●	●						●					●	●		●			●	
Cupric Nitrate		●	●		●			●		●					●					●	
Cuprous Chloride	●	●	●		●						●	●	●	●		●				●	
Ferric Nitrate			●						●											●	
Ferrous Ammonium Sulfate		●	●							●								●			
Lead Nitrate		●	●		●				●		●	●	●	●	●		●		●	●	
Metal Fluoborates										●					●						
Oxamide					●																
Potassium Acetate		●		●					●	●				●		●	●			●	
Potassium Bifluoride		●		●			●			●										●	
Potassium Borate, Tetra										●											
Potassium Fluoride		●								●											
Potassium Nitrite		●	●			●				●		●						●	●		
Potassium Permanganate																					●
Potassium Titanium Fluoride											●							●			
Sodium Bisulfite, Meta Purified and Reagent						●									●					●	
Sodium Fluoride, Reagent A.C.S.								●						●							
Stannous Chloride		●	●					●	●	●				●					●	●	
Sulfur Hexafluoride				●																	

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BAKER & ADAMSON *Fine Chemicals*

GENERAL CHEMICAL DIVISION

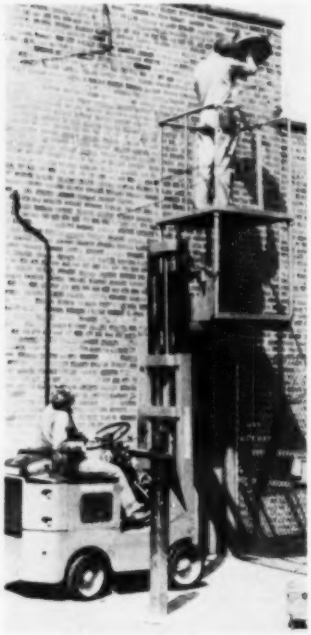
ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N. Y.

SETTING THE PACE IN CHEMICAL PURITY SINCE 1882

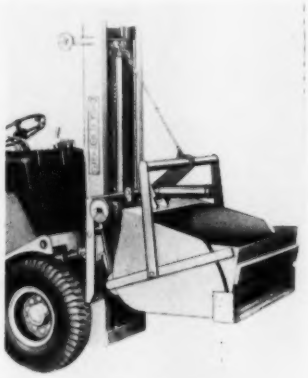
Various Attachments Add To Lift-Truck Versatility

The lift-truck attachments shown below increase the value of materials-handling equipment in a mill. They have all been developed recently by Towmotor Corp., 1226 East 152nd St., Cleveland, Ohio.



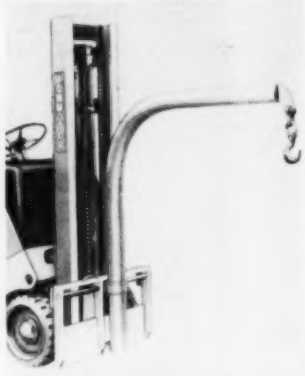
For servicing areas otherwise inaccessible . . . .

For protection during high stacking . . . .

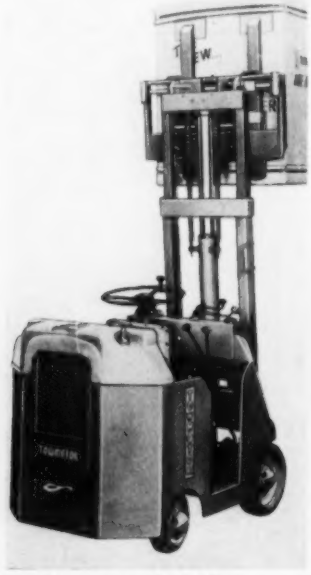


For positive handling of loose materials . . . .

For dumping materials from containers . . . .



For handling cumbersome heavy loads . . . .



For lifting cartons without pallets . . . .

For pushing loads off into position . . . .

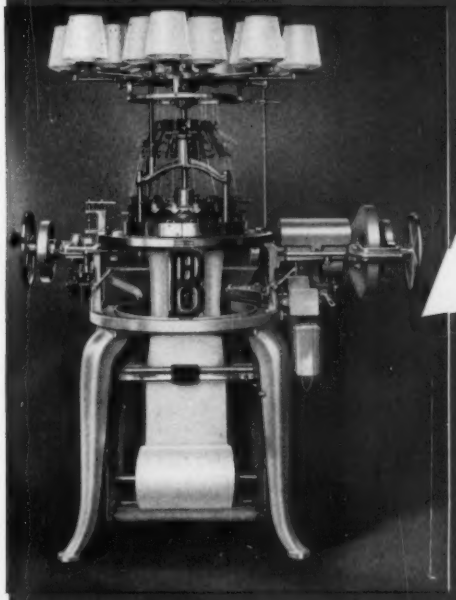
For lifting unwieldy open-center loads . . . .

LEADING THE KNIT PARADE

STANDARD KNITTING MILLS, INC.

Knoxville 3, Tennessee

Standard's famed HEALTHKNIT line is a top seller—and for good reason. Quality plus imaginative design and styling is a sure success formula. In the case of Standard, success is also the result of years of experience in creating garments that feature a "buyer's bonus".



One of the many Brinton machines producing Healthknit is the Model Ribstan shown here.

Brinton Model RIBSTAN Style MF-RB

This maximum feed rib body machine is used by the progressive manufacturers of Men's, Women's and Children's underwear, sleepwear, outerwear garments and similar rib body tubular knit goods—plain, straight goods and shaped varieties.

You choose from two models of the Ribstan. The *Automatic*, equipped with mechanism for automatically changing the type of stitch as required or continuous production of shaped goods. Change is made from rib to rib on any number of feed and a wide variety of combinations. The *Plain* model Ribstan is built for the manufacturer who wants high-speed continuous production of one type of tubing for straight goods—in plain 1 x 1, half-cardigan, 2 x 2 Ribbing or Swiss rib.

Model Ribstan has been designed to produce perfect fabric with great uniformity and low costs of operation.

The Ribstan is built in sizes from 3" to 36". From 8 to 28 feeds. Plain or automatic 1 x 1 and 2 x 2 and a great variety of stitch combinations. Average production is 20 to 25 yards per hour.

Write for descriptive literature

Engineered for the World's Greatest Knitwear Makers

BRINTON

CIRCULAR KNITTING MACHINES

KENSINGTON AVE. & M ST., PHILA. 24, PA., U.S.A.

Short-Length Nylon-Plasticizing Machine Available from Britain

ELIMINATION OF PREBOARDING is said to be commercially practical with this British plasticizing machine for nylon hosiery. The new unit is 31 ft. long.

A shorter 31-ft.-long continuous nylon-hosiery plasticizing and finishing machine that eliminates preboarding is now being offered to American mills by Nylo-Plas Ltd., 87 Regent St., London W. 1, England. The unit, called the "Universal" machine, can also be used in the finishing of blended hosiery, half-hose, and children's socks.

Stockings to be finished are placed on the metal forms and proceed through a spray box, where water or antisnag chemicals can be applied. The hose then pass through a pair of rollers to enter the conditioning chamber, where plasticizing takes place under controlled heat and humidity. Upon leaving the heating chamber, the stockings are stripped and are ready for pairing and boxing.

Scouring and dyeing are done beforehand, without any preboarding. If a mill desires to preboard, this operation can also be carried out on the machine without difficulty.

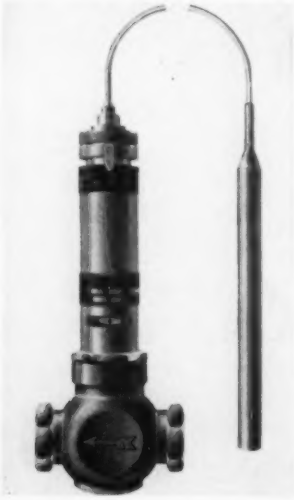
Production speed varies from 30 to 40 doz. per hr., depending on the stocking being processed. The American distributor of the machine, American Schuster Machine Co., Inc., 120 Broadway, New York, says there is a 4-month delivery lag for units arriving in the United States.

Mineral-Wool Blocks and Felts Insure Low Boiler-Heat Loss

MINERAL-WOOL blocks and felts insure low heat loss and long insulating life on two steam-generating units at the Ciba States Ltd. plant at Toms River, N. J.

To insure low heat loss through boiler settings and long insulating life at high temperatures, Riley Stoker Corp., 99 Neponset St., Worcester, Mass., is using a combination of mineral-wool blocks and mineral-wool felts for steel-clad insulated casings on its line of steam-generating units. The insulation being applied to the furnace water-wall section shown here is on one of the two 50,000-lb.-per-hr. Riley units at the new Toms River, N. J., plant of Ciba States Ltd.

The blocks and felts are applied as follows: The 3½-in. water-wall tubes, on 5-in. centers, are covered with T-tile that is secured with high-temperature air-setting cement. Two-in.-thick mineral-wool blocks, 12x8 in., are stacked against the tile with all edges staggered. Then, 24x24-in. mineral-wool felts, 3¼ in. thick, are placed over the blocks. To secure both layers of insulation permanently, the felts are compressed about ¼ in. when the 10-in.-gauge steel casing is installed.



FIELD REPLACEMENT of the thermostatic system of a new line of temperature regulators does not require removing the valve from the piping system. The ½-in. size regulator is only about 8½ in. over-all.

Self-Operating Temperature Regulator Works on Liquid-Expansion Principles

A new line of self-operated temperature regulators that are available in either direct- or reverse-acting types for heating and cooling applications has been brought out by Farris Stacon Corp., Commercial Ave., Palisades Park, N. J. Called Series-"V" regulators, they can be used to handle—through their valves—steam, liquids, gases, and all fluids not corrosive to brass.

The regulators operate on the principle of liquid expansion, and so valve movements are gradual as the temperature changes one way or another.

Other features of the new regulators include (1) a simple rugged thermostatic system that can be replaced in a matter of minutes without removing the valve from the piping system; (2) a tight shut-off that comes from a self-aligning single-seated construction in the valve that insures tightness; (3) positive, uniform throttling action; (4) overload protection; and (5) dial adjustment.

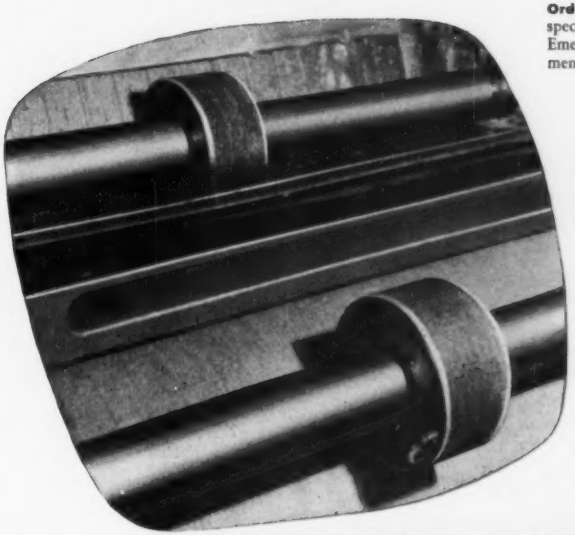
Available in sizes from ½ to 4 in., the regulators can control temperatures between 25° and 275° F., with a 50° range of adjustment in each unit. Inlet-pressure limit is 125 psig., and the inlet-temperature limit is 450° F. The bronze bodies, renewable bronze or stainless-steel seats and disks, and an 8-ft. nickel-plated copper capillary and nickel-plated-brass bulb standard make for reduced maintenance and long-term low cost.

You'll never know till you try

For re-conditioning card clothing, there's no more dependable, more satisfactory fillet than the new Emery Grinding Fillet by CARBORUNDUM.

Every particle of grain is anchored TIGHT to the tough, flexible, woven cotton backing —particles can't shed in the grooving. Both edges are SMOOTH—no gaps when you spiral wind either the long rolls or the traverse grinders. The grooving is EVEN—assures true side grinding that eliminates every burr and avoids chiseled points.

Order from your CARBORUNDUM distributor today. He specializes in complete stocks and prompt delivery. Specify Emery Grinding Fillet by CARBORUNDUM. It's standard equipment in the leading mills everywhere.



New EMERY GRINDING FILLET

by CARBORUNDUM

TRADE MARK

"Carborundum" is a registered trademark which indicates manufacture by The Carborundum Company, Niagara Falls, New York

NEW *Dyes* AND *Chemicals*

Ball-Bearing Spindle Out Under New Name

FORMER "CENTURY" SPINDLE that was manufactured by Hartford Machine Screw Co., for the now reorganized H & B American Machine Co. has been put on the market again as the "Hartford Ball-Bearing Spindle" for spinning and twisting.

A well-known ball-bearing spinning and twisting spindle is now offered to textile mills under the name of Hartford ball-bearing spindle. It is manufactured by Hartford Machine Screw Co., Inc., Box 1440, Hartford, Conn., and was formerly produced by Hartford for the now reorganized H & B American Machine Co. as the "Century" spindle. There are already 92,000 Century spindles in use, the manufacturer reports, and service is available for these spindles also.

In the near future there will also be a Hartford roller-bearing-type spindle available for both spinning frames and twisters.

Equipment Copies Office Records, Rapidly, up to 14 In. Wide

Photo-exact finished copies of any office record can now be made in less than a minute without developing, washing, fixing, or drying, with an office setup developed by Remington Rand Inc., 315 Fourth Ave., New

(Continued on page 350)

New Antistatic Agents Have Special Uses

A series of three new antistatic agents has been produced by Finetex Inc., P. O. Box 414, Pompton Plains, N. J.—Curdite XXR, Finestat 008, and Cordex 220. All three of them in concentrations as low as 0.2 of 1% on yarn fiber and woven fabrics are said to completely eliminate static, cause no bleeding of colors, and not affect the shade and fastness properties of fabrics.

Heat stability is considered excellent when applied to synthetic fibers such as nylon, Dacron, Orlon, saran, and rayon.

In addition to antistatic properties, each product has other specific functions. Recommendations are outlined in technical bulletins obtainable from the company.

Seaming and Sewing Aid Helps Fabric Users

A new finish, Velubra-H, has been developed by Amalgamated Chemical Corp., Philadelphia, Pa., to improve the seam efficiency and sewability of fabrics.

No yarn severence in sewing is claimed when fabrics are treated with a 5% solution of Velubra-H. In normal seaming operations on untreated fabrics, 13% of the warp threads are severed, with a resultant weakening of the finished garment.

When a fabric is treated with the product, needles bypass yarns rather than cut through them. It makes a treated sewn fabric as strong as a treated unsewn fabric, the makers claim.

In high-speed commercial sewing considerable heat is generated, sometimes to the extent that synthetic fibers melt. Needles become clogged, slip-stitching occurs, and the sewing threads break. Often static electricity becomes an annoying factor. Velubra-H reduces friction and prevents such static. In addition it gives a desirable soft "hand" and materially improves fabric cutting characteristics, it is said.

Permanent Duller Is Compatible With Resins

A new dulling agent made by Woonsocket Color & Chemical Co., Woonsocket, R. I., is said to be compatible with urea formaldehyde and melamine resin finishes, starches, gums, etc. The product has been described as a poly-resinous nonionic compound.

Concentrated Detergent Is Economical and Effective

A new detergent made by Hart Products Corp., 1440 Broadway, New York, is effective in very low concentrations. Hartopon B has low cost, high activity, and a wide range of uses, the company states.

Good Union Violet for Nylon-Wool Blends

Capracyl Violet R is a neutral-dyeing dull violet produced by E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del. It is of interest as a shading color for application to either nylon or wool. Brighter shade approximations can be made with other acid dyes although they are inferior in both light- and wetfastness properties, the makers state. The dyestuff is absorbed readily from neutral dyebaths and exhausts almost completely with an addition of 3 to 5% of ammonium acetate.

This new color dyes nylon and wool about equal in strength from neutral ammonium-acetate and acetic-acid baths. The product will be of interest for the union dyeing of the two fibers.

Non-Permanent Resin Has Interesting Uses

Panalon FF, a new product of E. I. du Pont de Nemours Co., Inc., Wilmington 98, Del., is a non-ionic dispersion of a thermoplastic synthetic resin recommended as a bodying and stiffening agent for textile fabrics. It is slightly acid in reaction (pH 5) but can be adjusted to any degree of acidity or alkalinity required in ordinary textile processing. The product is said to be suited to textile application by padding-impregnation methods since it does not exhaust from the bath.

The product is compatible with other non-ionic, cationic, and anionic surface-active agents, as well as being compatible with ordinary finishing agents.

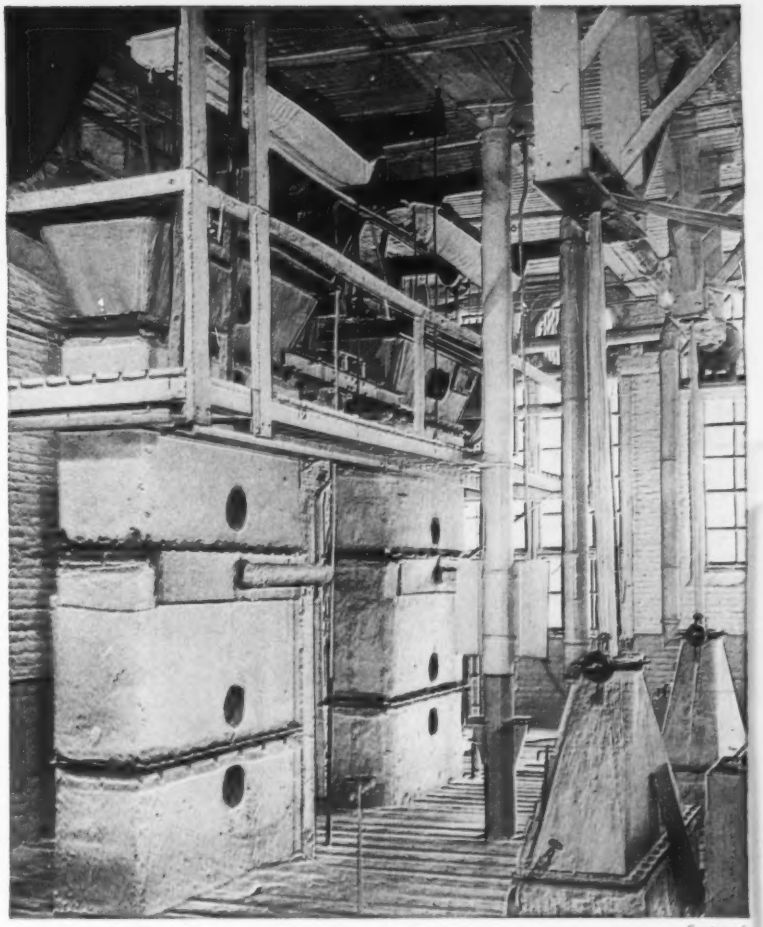
Fabrics treated with Panalon FF are said not to develop odor or discoloration.

Full, firm finishes on cotton, when used at high concentrations, do not give undesirable papery effects. In general, the resultant finishes are similar to those produced by starch plus softener. The product can replace starch plus softener in cases where brightness of dye shade is required and where actual weighting is not essential. Although the finishes are not fast to washing and dry cleaning, the ease of removal by scouring is advantageous in connection with redyeing problems.

Panalon FF produces crisp, dry, and smooth finishes on acetate, nylon, Orlon acrylic fiber, and Dacron polyester fiber.

On acetate, the finish is durable to washing but not to dry-cleaning solvents. On nylon it is not fast to washing but is resistant to removal by dry-cleaning solvents (Stoddard solvent and carbon tetrachloride). On Orlon and Dacron it is durable to washing, while fastness to dry cleaning has yet to be determined.

BECCO
PEROXYGEN
CHEMICALS



Courtesy of:
Cluett, Peabody & Co., Inc.

Continuous J-Box Bleaching with Hydrogen Peroxide

Continuous WET J-Box bleaching is now attracting industry-wide attention as the greatest development since the original Becco J-Box.

The wet box supports and "lubricates" the goods, reduces friction in the curve of the J, expedites flow, reduces pulling strain, eliminates snarling and tangling. Speeds run as high as 400 yards per minute. As in conventional J-Box processing, it is quite possible to receive gray goods in the morning and ship finished goods the same day.

The WET J-Box process gives a preliminary wash which reduces surface deposits and improves dyeing quality. Write for complete information or talk with any Becco representative.

Buffalo Electro-Chemical Company, Inc.

DIVISION OF FOOD MACHINERY AND CHEMICAL CORPORATION

Sales Agent: BECCO SALES CORPORATION, Station B, Buffalo 7, N.Y. Buffalo • Boston • Charlotte • Chicago • New York • Philadelphia • Vancouver, Wash

Reduce Yarn Handling Time 30%

TAPERED HEADLESS PACKAGE TAKE-UP of the new Unirail Uptwister cuts operator's yarn-handling time as much as 30%. Time-saving features include: automatic tailing device . . . hinged arbor which speeds up donning and doffing, without handling the yarn . . . self-threading guide . . . quick-threading centering eye . . . anti-drum-wrap device . . . unique stop-motion. Bulletin 501 tells you the whole story.

...with the new Headless Package Unirail® Uptwister

Never before could you produce such good yarn at such low costs.

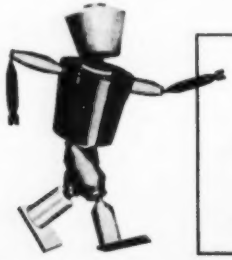
Here's why. With this new Headless Package Unirail Uptwister, you minimize yarn handling time . . . twist with less tension . . . cut donning and doffing time as much as 30% . . . doff without touching the yarn . . . avoid roll and shaft wraps . . . eliminate extra threading . . . run at high speeds — (thanks to the revolutionary new Uniflex Spindle) . . . cut power costs . . . get rid of free oil and yarn spoilage . . . reduce oiling and cleaning cycles to new all-time lows.

What's more, pre-erection, factory run-in and sectional shipment of the Headless Package Unirail Uptwister simplify installation . . . get your new uptwister on the job quickly with perfect assurance of top performance from the start.

Can any uptwister be that good? — Read the new fact-packed Bulletin 501 and see for yourself. Or better yet, see your nearest Universal Winding Company sales representative for full details.

NEW BULLETIN 501 shows you in detail how the new Unirail Uptwister cuts your costs, speeds up production and improves yarn quality. Write today.

23.2.3



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330 West 42nd Street, New York 36, N. Y.

Round Table

PROFESSOR LOWE'S WORSTED THEORY IS SOUND

Dear Editor:

The theory of the modern short-circuit method of worsted manufacture was proved many years ago—long before the advent of present-day machines. Work done by Prof. John C. Lowe before he retired from the Wool Department, Lowell Textile Institute, reveals some interesting tidbits—especially when you consider when this work was done:

1934—*A Study of the Cause of the Number of Operations Used in Worsted Drawing* by John C. Lowe.

"Effective draft is that part of the draft that causes the reduction in size of the end delivered as compared to the size of the end entering the machine. Draft is not effective when its action upon reduction is neutralized by doublings.

"Excessive processing seems to affect the physical properties of the fiber and thus reduce both the strength and elasticity of the yarn . . ."

1940—*A Study of the Influence of Changes in Draft and Uncontrolled Distance in Gilling* by John C. Lowe.

"An increase in uncontrolled distance may be balanced, therefore, by a decrease in draft, and the opposite is also suggested.

"An average uncontrolled distance of 1.625 in. produces a significant change in the evenness of single-yarn diameter, whereas no appreciable change in regularity is revealed with a 1.25-in. average uncontrolled distance.

"Better results will be obtained in gilling fine-quality Noble-combed tops when the average uncontrolled distance does not exceed 1.25 in. This condition is possible when a 1.5-in. front roll and 0.375-in.-pitch screws are used on an ordinary gill box."

It is interesting to note that Prof. Lowe's theories were set forth when average uncontrolled distance in gilling used to be about 2 in. A common figure today is $\frac{13}{16}$ in.

I wonder how many people who laughed at these ideas a dozen or more years ago are still laughing now?

MICHAEL J. KOROSKYS
Wool Department, LTI
Lowell, Mass.

BEATER TEETH SHOULD BE OF THE PROPER METAL

Dear Editor:

Man-made fibers require an opening machine different from the one required for cotton. Mills processing synthetics prefer a heavy shredder, say 48 in. wide, to the old picker, which is only 24½ in. wide and is not suitable for the heavy work now required of it.

The question of legs, teeth, and pins best suited for handling these newer fibers is of great importance. It is practically useless to obtain new openers that are not furnished with teeth made from the correct metals.

Three metals are suitable:

Monometal
Soft stainless steel, Type 300
Hardenable stainless steel, Type 400

The first metal is the softest and is least likely to be affected by any chemicals. The second is the next best as far as chemical effect is concerned but is harder than Monometal. The third is the hardest and, if properly hardened and passivated by experts, has the same toughness as high-carbon steel. All these metals may be polished to a high luster. They can be shaped to a sharp point or to blunt or ball points, and they can be made to fit any lag, slat, or cylinder.

Select, therefore, the metal tough enough to stand up to synthetics and one that will not be affected by the various forms of chemicals in the fibers. In the picking operations, either wet or dry, a steel pin may, and probably will, affect the quality of the picking and will probably be affected by the chemical itself.

J. C. BENNETT
William Crabb & Co.
Black Mountain, N. C.

(Continued on page 344)

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

"I've looked all through your 'Searchlight Section,' carnsarn it!—and there ain't even one searchlight offered for sale!"

Pointers FOR SUPERVISORS

It's Important To Know How To RATE YOUR EMPLOYEES

► **Rating your workers can be a difficult task—and can often result in misjudgment. Establishing a sound plan for rating can prove helpful to both supervisors and employees.**

By **FRANK T. DE VYVER**
Vice President and Director of Personnel Relations, Erwin Mills, Inc.

THIS TITLE MAY HAVE led you to expect a discussion on one of the several complicated rating systems that personnel and psychological experts have devised for use in industry and government. Many firms have adopted such plans for periodic ratings of employees. Others, however, still rely on what is spoken of as "good common sense" for the judgments that must be made. What I want to do here, therefore, is not to describe some particular plan for rating workers but rather to discuss a few principles upon which all rating systems are founded. Those same principles can be used by every foreman whether or not a formal plan is used by his company.

The first fact to remember is that rating or judging is not something new devised by staff people to give more work to already busy line supervisors. To some degree, each one of us rates his fellows. We like this boss better than that one. That other foreman may appear to us more forceful than this one. That clerk was more pleasant than this one. And we continue making such judgments in all aspects of our daily living. It is when we become responsible for the work of others that rating or judgment of those others becomes a very important part of our jobs. In fact, our ability to judge or rate those under us may determine our success on our own jobs.

Rating like this has always been part of a supervisor's job. He can't escape it any more than he can escape the other responsibilities of foremanship. This being true, foremen today are learning how to improve their judgments. Sometimes these carefully devised rating systems are used. Sometimes no special system is found and the rating is done informally. In either case, unless the foreman's judgment continually improves, the rating, whether formal or informal, will be nothing but a guess.

When To Rate

Now that you recognize that judging others is part of every supervisor's job, consider briefly the times when that rating must be done. Obviously, the first time the worker should be rated is when you are deciding whether to retain the new worker permanently. Of course, the man has been judged when he came to work; you took him because in your judgment he would fit the job. But days or weeks later, particularly if a union contract is in force, the foreman must decide whether the worker has been satisfactory during the probation period.

Another time when rating helps is during the new worker's training period. Proper judgment, for instance, will make training easier by isolating factors that make the worker satisfactory or unsatisfactory. For example, in a recent arbitration case one of our supervisors was asked why the employee in question was not measuring up as a loomfixer. Instead of saying he didn't know but the records showed the worker was not good, this foreman gave a brief but specific analysis of the man's problem, which was his difficulty in doing a thorough job on a specific task before moving on to the next task. Although no formal rating system was used, that foreman had rated his worker and in training him had spent considerable time on that particular failure. Without that analysis, considerable training time could have been lost in teaching techniques that the worker already knew. Rating shows when and where training is necessary.

It is when a promotion is to be made, however, that rating assumes its greatest importance. Today more and more firms are interested in what the management experts call "executive development." This involves promotion from within. Every supervisor will be asked to recommend men in his department who have the attributes to become good foreman. Unless the supervisor rates his men well, good candidates may be overlooked and poor candidates pushed into supervisory jobs for which they have no particular talents.

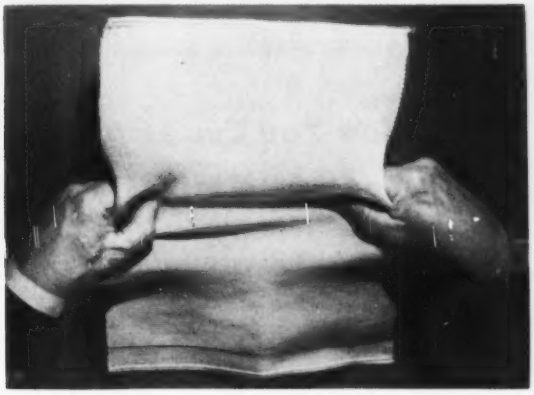
The Halo Effect

In all judgment of others, one difficulty stands out. That is the tendency to give a total judgment of a person on the basis of our like or dislike of one factor in that person's character or personality. Dr. Harry Emerson Fosdick in one of his printed sermons has called this human tendency "thinking in bunches." A customary illustration in cartoon and story has to do with the young and beautiful stenographer who may know little about stenographic work but nevertheless is judged "excellent" by her boss. The technical term for this human tendency is "the halo effect."

It is this halo tendency or its opposite, which might be called the "horn and tail effect," that must be avoided by supervisors seeking to improve their judgment faculties. Furthermore, it is not an easy tendency to change because it is so universal; and changing requires that we recognize one of our own weaknesses, something that few human beings do with ease. First, of course, a supervisor must analyze himself to see in which ways he uses the halo.

Some foremen expect a certain amount of boot-licking. Workers easily sense this desire and some will do the bowing and scraping involved. A foreman who likes that type of attitude will surely err in his judgment of workers' abilities and possibilities for

(*Continued on page 316*)



Next Month—

New Series on Engineered Textile Design

IN A RATHER UNPRECEDENTED MOVE, because of its obvious importance to the industry, TEXTILE WORLD takes pleasure in announcing in advance a new series of practical articles, to be grouped under the general title of "Engineered Textile Design." The series, prepared by Dr. John B. Dickson, Textile Division, U. S. Rubber Co., New York, will start in October.

Most fabric men know that engineered textile design falls into two broad classes: (1) design for structure, and (2) design for properties. And the foundation for the structural design of all textile fabrics is yarn diameters, whatever the fiber or fibers used may be.

Consequently, the first article in the series, "Yarn Diameters and the All-Fiber System," lays this design foundation and extends Peirce's* formulas, which apply only to textiles made of cotton, to include textiles made of all other kinds of fibers.

Hit-or-Miss Designing

Designing of textiles has not yet reached the stage of precision attained by engineers in other fields. A civil engineer does not design and erect ten bridges to see which one stands up. But a textile designer ordinarily designs and weaves many experimental fabrics to find one that is satisfactory. He depends on his empirical experience, which is invaluable to him.

At best, however, as compared with the engineer, there is still much by-guess-and-by-gosh about textile design for functional properties. The textile technologist has nothing comparable to the engineering handbooks that contain mathematical formulas and tables of physical properties of the materials with which he deals.

The object of this series of articles will be, then, to reduce functional design as nearly as possible to the precision of engineered design in other fields. With engineered textile design, a mill should be able to get its first sample sufficiently close to having the desired properties being sought so that one, or at the most two, more samples will "ring the bell" with the exact properties desired.

* F. T. Peirce, in a classic paper "The Geometry of Cloth Structure," which appeared in the *Journal of the Textile Institute*, March, 1937, laid the scientific foundations of woven fabric design for structure. At that time he was connected with the British Cotton Industry Research Association.

Exactly ten years later, as Director of Textile Research at North Carolina State College, he published a second article in the *Textile Research Journal*, March, 1947. In this second article he stated: "The treatment given here of the woven structure, and in Part IV of the knitted structure, will be used in later papers dealing with practical examples, which may appeal to readers who prefer to take the applicable formulas for granted, without mathematical discussion."

Peirce thus realized the need for expressing his results in more usable terms, but he died before he could publish the necessary articles. The mathematical rigor required for the scientific fundamentals of structure has, with a few exceptions, discouraged those who might otherwise have used his results to advantage.

Peirce dealt with structure, and only to a minor extent with mechanical properties such as tensile strength. Since fabrics are used for their physical properties, it has been necessary to develop techniques for the designing of fabrics with certain of these properties.

Many properties, such as grab tensile, stiffness, etc., depend upon a combination of structure and fiber properties. Thus the two branches of design are related and have to be considered together.

Exploring

The Textile Community

How You Can Improve Your COMMUNITY RELATIONS

▶ Community good will doesn't just happen. Companies that have it have worked for it—and keep on working to improve it. The suggestions outlined here can help you be the kind of neighbor your own town will be proud of.

By MILDRED BARNWELL ANDREWS

Have you analyzed the term "community relations"?

Do you know what it *really* means?

Does your company or plant have a good community-relations program?

These answers, put to textile operators, bring some startling, often negative, answers. So it seems a good idea to present a pattern for good community relations and, in succeeding articles, to give our readers case histories of outstanding activities.

Be a Better Neighbor

Better community relations can't be built with a single effort any more than a snooty, thoughtless society leader can square herself with the town people by giving an annual social affair. That just isn't the way to get sympathy and understanding. Community relations must grow with a planned, continuing program.

A company must endeavor in every way and at all times to be a good neighbor, for it is only one unit in a community. Merchants, preachers, teachers, editors and radio-TV commentators, business and professional men, housewives, and employees of the company are part of the community in which your company must get along. Those community leaders and citizens will understand the company better if they know it better. The company will understand the community and cooperate more fully with it if it knows the community better. That's human nature. A company cannot ignore the needs or interests of the town or city in which it is located and then expect sympathy or understanding when market trouble, operation slowdown, or other problems arise.

How To Get Started

Sometimes top management, busy combatting depressive or competitive market factors to keep the mill running and the payroll going, may visualize the need of a good-neighbor program; but because of the high pressure of business that at the moment seems more imperative, no one stops to outline the mechanics of a community-relations program. For such busy executives, we have some suggestions. There are a number of ways to start building better community understanding.

October is RED FEATHER month—the time each year when health and welfare agencies unite in one campaign to raise money to continue their services.

In towns and cities all over the United States and Canada, these services for babies and young people, for families, for the ill, the aged, and the handicapped are vital to the welfare and happiness of the community.

Home-town needs and national health and welfare programs such as those made necessary by the defense effort are met by your contribution to your united RED FEATHER campaign.

Do your part when your local drive gets under way next month.

A well-planned community-relations program can easily start with a general plant housecleaning. Spruce up the place inside and out. It won't cost much, and a clean, well-kept plant is a source of pride to an industrial community. Landscaping gives the entire community a face lifting. Fall months are ideal for this kind of planning; then when spring comes, you will see the full glory of your work. If barren and idle land areas are nearby, get them cleaned up and ready for a community garden project for 1953. It will create more good will and interest than many costlier activities.

If lawns and shrubbery are not feasible because your plant is right on the street, then a good coat of paint, or trim, on the building and attractive company signs will lift your neighbors' morale. A "Visitors Welcome" postcript creates good will because of its evidence of friendship and hospitality. If visitors do come, be sure to let them know the sign was sincerely meant.

Try an Open House

Open house is one of the best ways to tell your community what your plant and its payroll and employees mean to the economy of the township and its environs. Open house means setting aside one day or a part of one day for plant visits by ministers, merchants and bankers, teachers, employees' families, civic clubs, customers, press, radio and TV editors, state and national legislators, or the general public. There are several ways to handle an open house effectively and at relatively small cost per visitor.

(Continued on page 343)

FREE
TRIAL SAMPLE
Which of these Brytex products could make your job easier? Check the ones you would like to give a real plant test. We will immediately send an adequate sample and in addition, provide any laboratory services you would like to request.
√ SLASHING
☐ LUBRENE — A softener and lubricant for synthetics and cotton. Prevents rough, brittle warps.
☐ LIQUISIZE — Softener and plasticizer for homogenized starch. Emulsifies in cold water. Easily removed in finishing.
☐ SPUN SIZE S — Sizing gum for all staple fibers and all blends. Reduces shedding and balling of size.
☐ SYTEX — Special warp size for filament viscose and acetate. Gives tough, pliable film. Runs cleaner than gelatine or casein.
☐ CONDITIONOL W — Eliminates static! For uniform, high quality yarns.
PRINTING
☐ 745 GUM — Printing thickener for vat colors. Conserves color by increasing depth and brightness.
FINISHING
☐ 813 G GUM — A finish and weighter that will not discolor nor gum up. Recommended for Sanforized finishes.
☐ RESIN DJ — Synthetic resin for fabric stabilization. Crush resistance and permanent glaze. Compatible with other finishing resins.
☐ FIRMEL — Versatile resin finish, adaptable to permanent glazing, crush proofing and crisp finishes.
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Tear out and attach to your mill's letterhead

Kinks AND SHORT-CUTS

Small Piece-Dye Machine Cuts Labor Cost in Half And Gives Better Results

Hand-stirring of small laboratory dyeings is a tedious operation, and results are not always uniform. A little machine that you can make yourself can save time and energy—and improve the dyeings. Designed for knitted swatches and hosiery, the machine can also be used for stock dyeing, except where high pressures are required.

Measure the length of your heated working area. Get a ¾-in. brass shaft at least that long and have it run in roller bearings between your rows of burners or behind a single row. Drive this shaft with a ¼-hp. motor and a suitable gear-reducing or other reducing element (18 to 1 works fine with a 4-in. pulley on the reducer and a 7-in. pulley on the brass shaft).

Put a cam on the brass shaft at each position you want to use. A 1-ft. steel arm with a roller bearing to contact the cam is fastened at its center so that the cam moves the business end of the arm up and down at a rate of 40 strokes per min.

Attach a stainless-steel-wire basket to the oscillating end of the arm. A 1-lb. weight on the same end helps to balance the system. The stainless-steel dye beakers into which these baskets dip should be 2 in. larger in diameter than the baskets and deep enough to get good immersion in the dye bath.

The up-and-down motion of the basket gives a continuous circulation of the dye bath.

The size of the wire basket depends on your requirements. It is a good idea to plan to use only about half the capacity of any basket to allow proper circulation. A basket 5 in. across and 4¾ in. deep will hold about 60 grams, half full. A medium-size basket (6-in. dia. and 5-in. depth) holds about 120 grams of a delicate fabric in a small dye net. A large-size basket (8¾-in. dia. and 6½-in. depth) holds from 160 to 360 grams. The wire mesh has ⅞-in. squares and is made of ⅛-in. wire.

MOTOR MOVES BASKET up and down in the dye liquor through a simple mechanical arrangement explained in the text. All equipment is stainless steel.

Crosswise partitions are made to fit inside the basket and hold goods at the bottom when smaller amounts than the full capacity are dyed. These partitions, also made from stainless-steel mesh, have prongs on each end that fit into the sides of the basket. Basket tops are perforated covers firmly held to the basket with a latch. A ¼-in. stainless-steel rod is attached to the center of the cover. The other end of the rod is fastened to the reciprocating arm and causes the entire basket to move up and down in the beaker.

A thermometer can be partially immersed in the basket to allow a quick temperature check at any time.

This small-scale dyeing machine gives level laboratory dyeings that check closely with full-scale production.

One operator can run eight dyeings at once, whereas he could hand-stir only four lots. *A. J. Olson, Milwaukee, Wisconsin.*

Changes in Soaking Method Eliminate "Sandy" Rayon

When you twist 50-den. rayon, the spools should run until they are full without yarn breakage. We had a lot of breaks, and the spools didn't have more than ⅛ oz. of yarn on them when the end broke.

We adjusted the yarn guides, examined the spools for sharp edges or cuts, and replaced all worn rubber rolls. Worn separators were also replaced—but our trouble continued.

I found that the yarn had a sandy touch. The trouble was in soaking.

In soaking, each operator used to work a 500-lb batch. We cut batch size to 200 lb. to make correct soaking easier. The amount of water in the process was increased from 30 gal. to 50 gal. Water temperature was reduced to 135° F. from 180° F. And the skeins were left in the dryer only 8 hr. instead of 24 hr.

Since making these changes in soaking, we've had no more trouble in twisting.

Are too many sources a sore spot with you?

In many phases of the textile industry, the manufacturer is forced to buy from many sources. He can't avoid it . . . and it's a costly proposition in terms of time and money.

But that isn't true when it comes to lubricants.

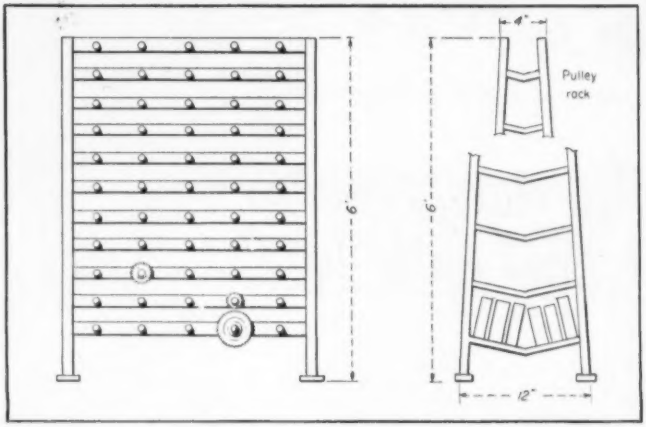
Cities Service provides a single, dependable source for lubricants exactly suited to your operation. Cities Service lubricants . . . specifically designed for the textile industry . . . help eliminate costly wear and parts-failure on all textile machinery. With these quality products you're assured of *cleaner* machine bearings and shafts, and cleaner finished goods, too. With them you can keep friction, due to *gumming and power load*, down to the barest minimum . . . KEEP PRODUCTION AT MAXIMUM.

Eliminate wasted time, wasted money and reduced output. Use Cities Service as a single source for the finest textile lubricants. For tangible proof—turn over your most stubborn lubricating problem to a Cities Service Lubrication Engineer. Simply write CITIES SERVICE OIL COMPANY, Dept. I-38, Sixty Wall Tower, New York City 5.

CITIES SERVICE

QUALITY PETROLEUM PRODUCTS

Gear and Pulley Racks Are Centrally Located



THESE TWO RACKS—designed for a spinning room—could be used in any department for orderly storage of gears and pulleys.

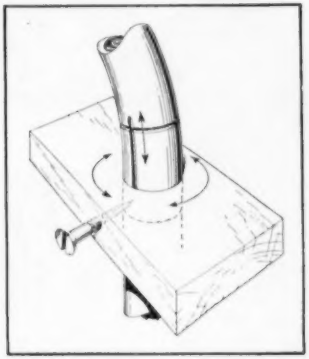
We used to store our cylinder pulleys and draft and twist gears in bins that were in a tower room just outside our spinning room. There were two things wrong with this system: Fixers wasted a lot of time walking to the room, and the bins were messy and unsightly.

So we moved the storage room to a central location and built racks for pulleys and gears. Now the fixers don't have as much walking or lifting to do.

The racks are made of angle iron and may be built, to fit your own needs, according to the accompanying sketches.

On our gear rack, we arranged the gears in order and numbered the ends of the pegs so that the gears could be located quickly. *Kenneth Kiser, Concord, N. C.*

Strip Lead Cables Without Insulation Damage



ROTATE BOARD for horizontal cut, and then slip it up and down along the cable for the vertical cut. Lead covering then peels off.

To strip the lead covering from cables without damaging the insulation, drill a hole the same size as the cable in the top of a flat piece of wood. Put a wood screw into the side of the piece of wood so that the point penetrates well into the hole.

To use this device, put the cable to be stripped in the hole, tighten the screw, and rotate the board. Now you have the horizontal cut. Move the board up and down to make the vertical cut, and then peel off the lead covering. *W. E. Warner, Essex, England.*

$500 for Best Kink in 1952
$25 for Best Kink Each Month

In Addition to Space Payment on Acceptance

You undoubtedly know many Kinks and Short-Cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your Kink may win the $500 check for the best Kink of the year or the $25 check for the best Kink of the month; maybe both!

Send in your Kink now. There is always a contest going on. The more good Kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every Kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your Kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it—we will pay you extra if you do and we can use it.

Look over the Kinks in this and other issues. You will get ideas you can use as well as inspiration for Kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

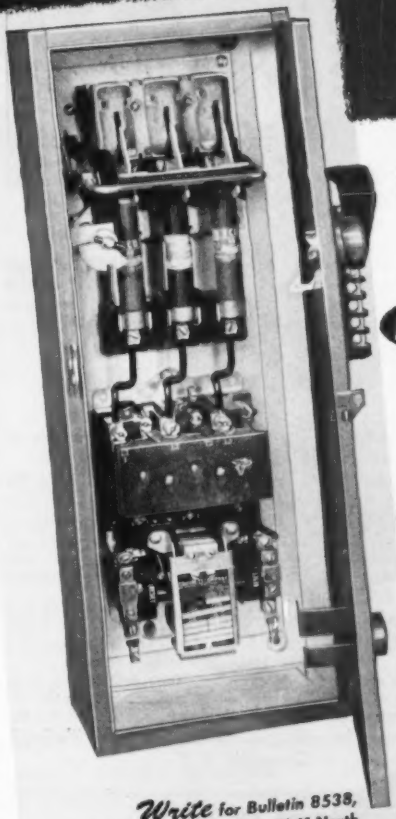
Your published Kink will be judged impartially by other mill men. In cases of ties, duplicate prizes will be awarded.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $500 prize contest for the year. Monthly contest confined to Kinks published that month, yearly to those published in calendar year 1952.
3. All Kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to Kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred Kinks in each issue. Their votes will select the best Kink, and their decision will be final.

Send kinks to:
KINKS CONTEST, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

DESIGN LEADERSHIP



for Textile Applications*

THIS NEW SQUARE D COMBINATION STARTER (SWITCH TYPE)

NEW ***Switch Operating Mechanism*** provides maximum operator safety. Interlock prevents opening door when disconnect is on. When door is re-closed, self-aligning handle indicates true position of disconnect. Operating handle can be locked in the OFF position with one, two, three or four padlocks of varying sizes. Handle-locking mechanism also locks door.

NEW **Switch Design** has quick make and quick break action—no dead center—visible blades for easy checking—magnetic arc plate for high rupturing capacity—dead-front line terminals, protected by hinged arc chamber cover—positive pressure jaws and fuse clips—non-tracking insulation.

NEW ***Features in Magnetic Starter Design*** Square D's time-proven design has always provided easy installation, simple maintenance, and long life. Now, even longer life is assured by straight line, guided motion of armature and movable contact assembly which eliminates bearing and reduces wear.

* *Available in both NEMA 12 and NEMA 1A for linty atmospheres*

Write for Bulletin 8538, SQUARE D COMPANY, 4041 North Richards Street, Milwaukee 12, Wis.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

No More Variation in Our Looper Lines and Headings

Our loopers used to complain—and with good reason—about looper lines and headings varying. Sometimes the looper line didn't even go all the way around the stocking.

The trouble was this: On our Banner machines, we make the heel and toe with heavier yarn than we use in the boot and foot. The looper heading is made with heel-and-toe yarn, but the heading is run on boot-yarn tension.

On the pattern cam, a small adjustable block gets all the wear when the machine changes from the top to the looper heading. The sudden shock on this little block has to be absorbed by a single 10x32 screw, and the screw invariably loosens. The loose screw causes loose headings to be made. The fixer also has to be always raising and lowering the trimmer on the looping machines.

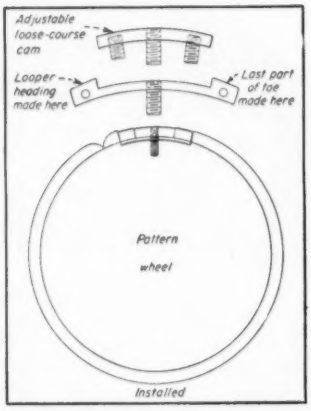
Here is how we remedied the situation. We made a special block and cam to replace the old block. The new block is fastened to the inside of the pattern wheel so that the looper heading runs with the same tension as the heel and toe.

The new block is made from ½-in.-square cold-rolled steel. Instead of being for the looper line only, the block is longer. Now the last half of the toe runs on one end of the block and the looper heading runs on the other end. An adjustable cam for the looper line is fitted into the new block.

We made our block a little big so that the surface could be filed down exactly as we wanted it. After we got the heel and toe the way we wanted them, we sawed off the part of the pattern wheel that the tension pin rides on when making the last part of the toe. The front end of the new cam is then filed off until the stitch is correct for the last half of the toe.

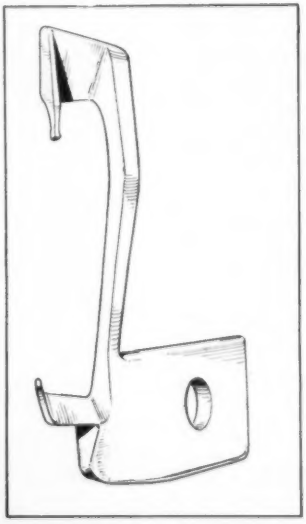
After we kicked the machine over on the looper heading, we kept filing away until the heading was right. We had to be careful not to file off too much.

Our loopers don't complain any more. If we put heavier or lighter yarn in the heel and toe, one tension adjustment takes care of both the looper and the heel-toe combination. We get a good looper line all the way around because all the space between the two ends is used (that's the space between where the last half of the toe is made and where the heading is made). *B. S. Dawson, Pulaski, Va.*



NEW CAM AND BLOCK is sturdy and has an adjustable feature to make better looper headings on Banner machines.

How To Protect Your Shipper-Shaft Tubes



THIS PLATE RAN TWO YEARS before it was replaced with a new one. The cut surface of the plate represents the equivalent of a tube cut completely through at the shipper shaft.

Our protector rods on S-3 and S-4 looms used to cut the tubes on the shipper shaft. The tubes broke at times, and at other times the tubes stuck on the shipper shaft and had to be removed.

We now have plates on our looms that protect the tubes from cuts.

The plates are made from ⅛x1¼-in. strap iron. One piece of iron 2¼ in. long is welded to the end of a 4-in. piece at right angles.

A ½-in. hole is bored 1 in. on centers from the end of the short piece of iron.

The corner of the plate near the welded place is cut out to form a ⅜-in. square.

The 4-in. piece of iron is bent to a 15° angle 1¼ in. from the end.

To fasten the plate to the loom, we remove the capscrew (Catalog No. 623) from the stand on the bunter stand, place the plate over the capscrew, and replace the capscrew. The bend in the plate fits over and against the shipper tube.

The plates can be used on either end of the loom by reversing the 15° bend.

We replace the plates when they become worn and, consequently, do not have any more cut tubes on the shipper shafts. *B. F. Blackwell, Greenville, S. C.*

Best-Kink Award for July

Each month TEXTILE WORLD awards $25 to the submitter of the Kink judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of Kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best Kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the Kink appears.

The best Kink for July, according to TEXTILE WORLD reader-judges, was:

"Converted Spinning Frames Give Twister Package Four Times as Big"

Alfred Friedrich, Putnam, Conn.

Mr. Friedrich is being sent a check for $25 with the compliments of TEXTILE WORLD

Swing to—

BOGER & CRAWFORD

SPUN NYLON YARN!

The quality of Boger & Crawford yarn is guaranteed—the highest tribute we can pay it.

SIGNED *Frederick Boger*

"SWING" is in the air!

. . . to Boger & Crawford spun nylon yarn! 60/2 and 80/2 ply.

Ideal for weaving and knitting! Sweater . . . skirt . . . stockings . . . by "courtesy" of B & C spun nylon yarn! Available in 20 wonderful fast colors. Color fastness equal to or better than Synthetic Fiber Test #1 and #2 AATCC.

Write for free samples of colors today!

BOGER & CRAWFORD

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Kinks AND SHORT-CUTS

New Guide-Bar Motion Gives Higher Tricot Speeds

You usually have to shog a tricot guide bar with the pattern wheel. This shogging wears the pattern wheel and follower and also wastes power.

We've fixed up a device that gives our guide bars a smooth, continuous motion that enables us to run the machines at higher speeds.

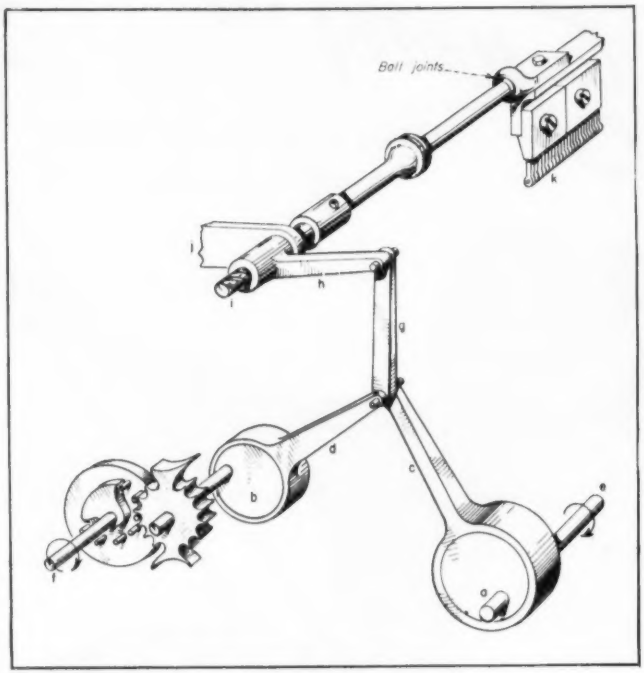
First of all, here's a key to the accompanying sketch—

a—main eccentric cam
b—subordinate eccentric cam
c and d—cam covers
e and f—cam shafts
g—connecting link
h—arm
i—shaft
j—supporting block
k—guide bar

The subordinate cam lags the main cam by about 90° and is rotated intermittently 180° each cycle. This motion makes the guide bar move, at the proper time, over only one needle pitch. The guide bar is, therefore, actuated by a smooth sine motion —not abruptly as before.

There is no need to counterbalance the guide bar with springs, as before, that increase wear on all the parts. And, with this new motion, the guide bar doesn't jump any more.

This mechanism is applicable only to those fabrics that have a simple repeat—no intricate designs.



THIS TRICOT MOTION relieves the pattern wheel of the wear and tear that results from constant shogging.

Prevent Opening-Room Fires With a Simple Gravity Trap

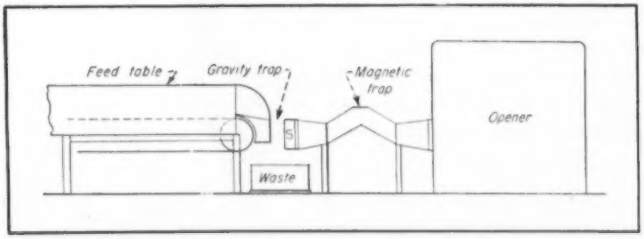
Many fires and a lot of machine damage can be prevented if you install a trap in the feed lines of preparatory machines. Even new cotton occasionally contains foreign materials. And spinning-room waste often contains travelers, hooks, soft-drink bottles, stirrups, and roll weights. This foreign matter in both baled cotton and reworkable waste is a potential cause of fire and injury to machine parts.

Gravity traps can remove the larger pieces of foreign matter. Magnetic traps, however, are still the best way to get out the smaller impurities.

A gravity trap is easy to make and install. Its position in the line does not interfere with machine operation or with the addition of a magnetic trap. There is no danger of any of the removed foreign matter being drawn back into the feed line.

Cotton, as it leaves the feed-table apron, falls into a short length of pipe that leads to the gravity trap. The air current from the opener is strong enough to draw the cotton across the trap, but metal objects or heavy materials drop into the waste box.

The lower edge of the short section of pipe from the feed table is about 2 in. above the intake pipe to the opener. This short section of pipe has a sliding sleeve that allows you to adjust the size of the gap. The usual distance here is 2¼ to 3 in., but you should test this setting yourself to waste the least of your own material and still remove the most foreign matter. *E. H. Helliwell, Newburyport, Mass.*



FOREIGN MATERIAL IS REMOVED from cotton with a simple gravity trap. The lighter cotton is drawn across the gap, but heavier foreign materials fall into the waste box. An adjustable sleeve on the intake pipe permits you to set the distance across the gap to give the best results in removing heavy material without loss of cotton.

Columbia-Southern earnestly solicits you as a customer because it earnestly desires to serve you.

The platform of Columbia-Southern is simple and direct: to produce consistently high purity Caustic Soda, other alkalies and related chemicals.

We believe in doing business fairly, promptly, and efficiently. We believe in serving beyond our normal obligations. We believe in saving our customers time and money whenever and wherever possible.

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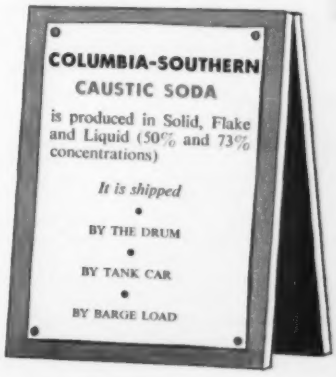


 For more information, write direct or use Reader Service post card.

Kinks AND SHORT-CUTS

How To Saw Thin Sheet Metal

HACKSAW BLADE IS ROTATED 90°, a wooden backing and a vise are used, and a clamp holds the fresh-cut ends when sheet metal has to be sawed.

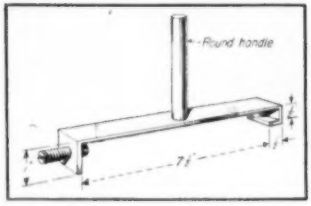
Narrow strips of thin sheet metal can be sawed off with an ordinary hacksaw when you use this method.

Scratch a line along the metal to show the line of cut, and place the piece in the vise so that the line is level with the top of the front jaw. If the metal is to be unmarked, it can be sandwiched between pieces of wood. In any case, a piece of wood behind the metal helps to reduce vibration. A fine-tooth blade is mounted in the hacksaw frame at right angles to the normal position, and the saw is worked along the line. The top surface of the vise jaw guides the blade.

To prevent the strip of metal from being broken or bent sharply, a strong spring clip is placed across the saw cut after the first half-inch of cut has been made. This clip effectively clamps the metal on both sides of the cut.

This method is very fast where there is no metal cutter available. Hand shears cannot be used when straight pieces of metal are required, because the shears bend the metal on one side of the cut. *C. T. Bower, London, England.*

Try This Belt Puller



THIS BELT PULLER will prevent a lot of fingers from being pinched.

Our section men used to hurt their fingers when they put on new spinning-frame belts or when they replaced belts that had been removed to be spliced to make them tight.

We used to put the belts on by hand or with a screwdriver or other pry-type lever.

We now have a tool that enables us to replace belts safely and quickly.

The tool, or belt puller, is made from a 9½-in. piece of strap iron 1 in. wide and ⅛ in. thick.

The iron is heated, and one end is bent in a U-shape to fit the belt. The other end is bent to a 90° angle 1 in. from the end; a ⅜x1½-in. setscrew is placed ½ in. from this end.

A round bar of steel is welded to the center of the strap iron on the side opposite the bends. The round bar is the handle.

When we replace a belt, we place the belt over the top pulley, slip the tool over the belt, run the setscrew all the way in, turn the belt clockwise with the left hand, and guide the belt on the driven pulley with the belt puller.

Belts are not injured when they are placed on the pulleys with our belt puller. *R. C. Ward, Columbus, Ga.*

Loom-Beam Ratchet Gears Reversed To Equalize Wear

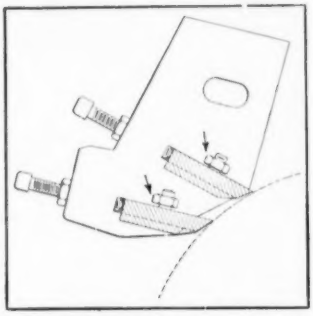
Cracked barrels caused our loom-beam replacement costs to run high. We looked around for a method of stopping cracks in the beam barrels and came up with an idea that did not cost anything but effectively reduced wear and breakage of the beams.

The compressors on the dressing frames were causing the beams to crack. Now, at the very beginning of a crack, we reverse the ratchet gears, end for end. The strain is, consequently, thrown on the opposite side of the beam barrel and the beams last longer.

We wind the apron the opposite way after we reverse the ratchet gears.

Replacement costs are much lower since we found this method. *G. R. Corrinett, Pittsfield, Mass.*

Mote-Knife Bracket Nuts Prevent Lickerin Damage



NUTS WITH SETSCREWS through them hold cotton-card mote knives firmly after the setting has been made.

In the usual design of the mote-knife assembly on a cotton card, the knives rest in the slots of the bracket and are held in place only by gravity. Thick wads of cotton in the lap can spring the mote knives and cause them to rise into contact with the lickerin.

Now that it is fairly well accepted that the best setting between mote knives and lickerin is 0.007 in. and that the angle of the mote knife should be 30°, some care should be taken to prevent mote-knife damage to the lickerin.

Two nuts can be welded to the side of the mote-knife bracket. Allen setscrews put through the nuts will clamp the mote knives firmly after the setting has been made. *J. F. Bogdan, Raleigh, N. C.*

Paint Tension Washers

How do you know when a washer-type tension ring is not rotating? We paint a white stripe on the side of each ring so that we can easily tell when one is stopped and is therefore putting too much tension on the yarn.

Direct Telephone Line Can Save Money

If you have plants located many miles apart, you ought to investigate the possibility of installing direct telephone lines from one switchboard to the other. The direct line usually dosen't cost as much as you'd pay for long-distance calls, and you save a great deal of time. *H. A. Concannon, Ashton, R. I.*

SAVE HALF YOUR MONEY

...own a

Hayssen

automatic

TEXTILE WRAPPING MACHINE

A Hayssen unit costs you less than you think and occupies about half the usual floor space. This machine wraps 35 or more packages per minute with one operator. You get a neat, tight, uniform package with electric-eye registration of printed overwrap . . . extra protection for your product and increased sales appeal.

A FULL LINE OF MACHINES WRAP

Sheets, Pillow Cases, Bolts of Fabrics, Curtains, Underwear, Shirts, Towels, Handkerchiefs, Hosiery, Batting, Yarn

The Hayssen Textile Wrapping Machine handles heat-sealing cellophane, pliofilm and polyethylene. It overwraps cartons, trays, flat cards and u-boards . . . handles the most delicate fabrics and fluffy material like cotton and wool bats. Special attachments (electric eye, roll-type top labeler and printer, card or u-board feeder) are available.

Over 42 years' experience gives Hayssen machines unmatched performance, low first cost, overall economy of operation and maintenance. Many Hayssen units are in use today that were purchased over 20 years ago.

WRITE for folder on Hayssen Textile Wrapping Machines. Tell us your wrapping problems —we have the answer.

IT PAYS TO WRAP THE HAYSSEN WAY

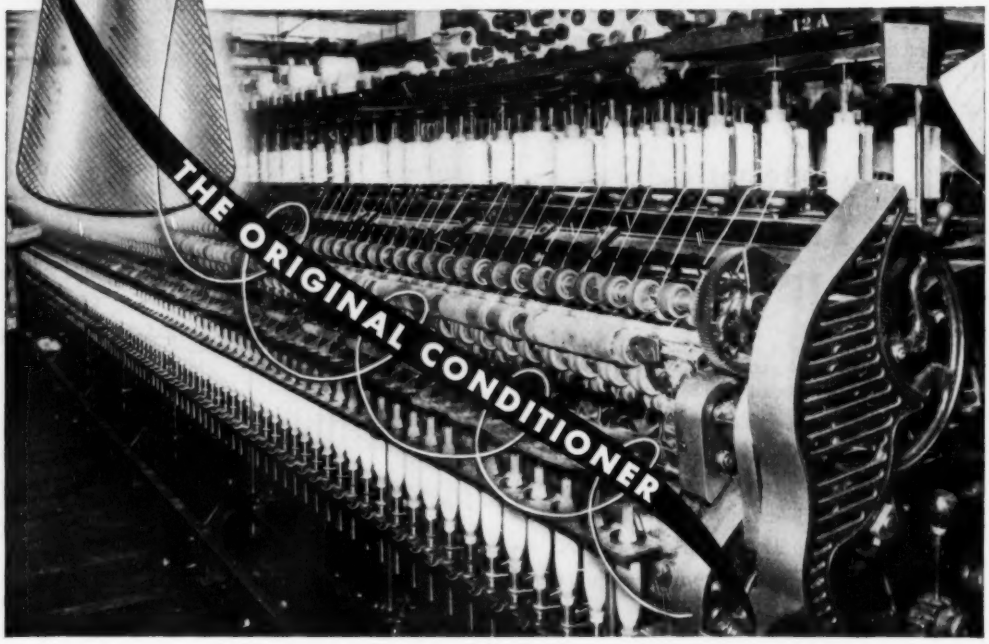
Hayssen MFG. COMPANY

Dept. TW-9, SHEBOYGAN, WISCONSIN

Since 1910, One of the World's Largest Manufacturers of Wrapping Machines

For more information, write direct or use Reader Service post card.

Specify MINEROL



For Controlled Flexibility

There Is No Substitute for Quality

IN THE opening, picking, carding, and spinning operations — maximum efficiency demands flexibility of fibres — both natural and synthetic. And that is the very function MINEROL performs so satisfactorily.

MINEROL not only fits in with modern methods of humidification used by the Textile Industry but actually augments and transcends them. For MINEROL stabilizes processing conditions two ways — (1) by retaining moisture and (2) by lubricating fibres.

As a result, scores of case histories prove that MINEROL not only cuts costs and eliminates waste in time and material, but actually pays for itself in increased production. Better Employee Relations result from reduction in card waste and "fly".

If you would like complete information on MINEROL,—let us know the type, grade, and staple of the fibres you use, whether the fibres are to be carded or combed, and what type of opening or picking equipment you employ. With this information in hand — we'll do the rest.

BORNE SCRYMSER Since 1874

Our Laboratory Facilities are always at your disposal

BORNE, SCRYMSER COMPANY ELIZABETH, N. J. • CHARLOTTE, N. C.

LIVERMORE

in the LIMELIGHT. . . . at the

SOUTHERN TEXTILE EXPOSITION

GREENVILLE, S. C.
OCTOBER 6–11, 1952

With the textile industry allocating 75% of its present spending to expansion and modernization, the HFL IMPROVED LOOM PARTS to be displayed and demonstrated at the Greenville Show will have the close attention of all thoughtful mill men.

SINCE 1887 the industry has been looking to Livermore for leadership in the engineering and design of Improved Loom Parts . . . and in this 65th year Livermore is coming up with some of its greatest achievements.

We recognize anew our responsibility, as the oldest and largest manufacturer of IMPROVED LOOM PARTS, to strive for even greater accomplishments in making the task of a weaver easier, his manufacturing costs lower, his loom production greater, his cloth quality higher.

Highlights at Greenville:

HFL IMPROVED

DOBBY
. . . complete, motorized and in operation.

HFL IMPROVED

SIMPLIFIED THREAD CUTTER
. . . replacing the Stafford type on a Battery. Also, the same Cutter set up on HFL's Magazine to eliminate drag-ins, and improve cloth quality.

YOU WILL BE WELCOME AT OUR BOOTH No. 189-A

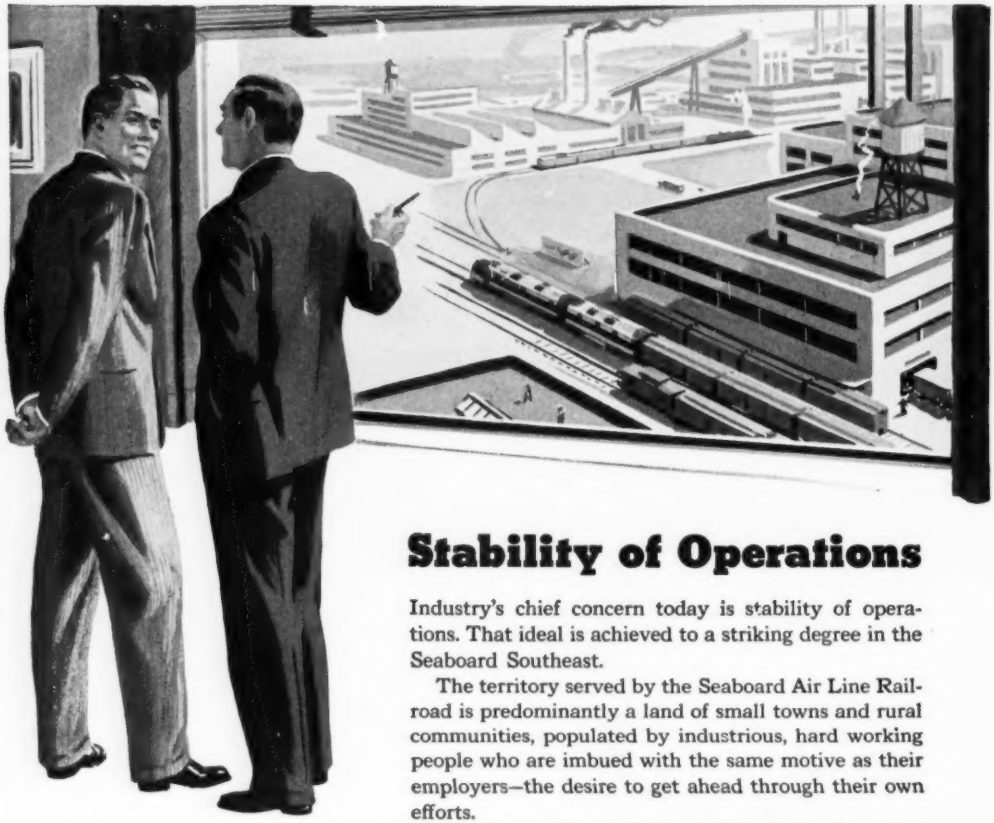
HFL
IMPROVED LOOM PARTS

H. F. LIVERMORE CORPORATION

ESTABLISHED 1887

EXECUTIVE OFFICES & PLANT
BOSTON 34, MASS.

SOUTHERN DIVISION
GREENVILLE, S. C.



Stability of Operations

Industry's chief concern today is stability of operations. That ideal is achieved to a striking degree in the Seaboard Southeast.

The territory served by the Seaboard Air Line Railroad is predominantly a land of small towns and rural communities, populated by industrious, hard working people who are imbued with the same motive as their employers—the desire to get ahead through their own efforts.

Somewhere in the Seaboard Southeast there is a community which will fulfill your ideals as a plant location. An expression of your requirements will bring specific recommendations and full supporting data.

ADDRESS: Warren T. White, Assistant Vice President,
Seaboard Air Line Railroad,
Norfolk 10, Va.

GROW with the GROWING SOUTHEAST!

SEABOARD AIR LINE RAILROAD

VA. N.C. S.C. GA. ALA. FLA.

THROUGH THE HEART OF THE SOUTH

TEXTILE WORLD'S

☆ 17th SOUTHERN TEXTILE EXPOSITION ☆

Guide to Exhibitors

☆ 17th SOUTHERN TEXTILE EXPOSITION ☆

17th SOUTHERN TEXTILE EXPOSITION

OCTOBER 6 through 11, 1952

Textile Hall, Greenville, South Carolina

☆ 17th SOUTHERN TEXTILE EXPOSITION ☆

17th SOUTHERN TEXTILE EXPOSITION

OCTOBER 6-11, 1952

TEXTILE HALL

GREENVILLE, S. C.

An opportunity to become acquainted with the latest developments in machinery, equipment, accessories, supplies, and techniques relating to the textile industry.

SHOW HOURS

MONDAY through FRIDAY—9 A. M. to 7 P. M.
SATURDAY 9 A. M. to 1 P. M.

For room reservations, please write Textile Hall Corporation,

322 West Washington Street,
Greenville, S. C.

"AN INSTITUTION OF THE TEXTILE INDUSTRY SINCE 1915"

☆ 17th SOUTHERN TEXTILE EXPOSITION ☆

THE 17TH SOUTHERN TEXTILE EXPOSITION will open at 9 a.m. on Monday, October 6, 1952, at Textile Hall, Greenville, S. C., and will be open each day from 9 a.m. to 7 p.m. until closing time on Saturday, October 11, at 1 p.m.

This year's show has every indication of breaking all records – in both number of exhibitors and number of persons attending – that have been set since the first Southern Textile Exposition was held November 2 to 6, 1915.

Since the last show in 1950, two new additions have been made to Textile Hall that have increased its capacity to house larger shows. These new additions provide about 10,000 sq. ft. of additional floor space.

Machinery, supplies, and primary and fabricating materials and parts for the textile industry will be displayed by more than 250 exhibitors. Here again the signs of progress will be seen as each company shows its latest developments for the textile industry.

W. G. Sirrine is chairman of the board of Textile Hall Corp., which manages the show; James H. Woodside is president and treasurer; W. W. Carter is vice president; and Miss Bertha Green is secretary.

VISITING HOURS AT THE SHOW

Monday	9 a.m. to 7 p.m.
Tuesday	9 a.m. to 7 p.m.
Wednesday	9 a.m. to 7 p.m.
Thursday	9 a.m. to 7 p.m.
Friday	9 a.m. to 7 p.m.
Saturday	9 a.m. to 1 p.m.

VISITORS TO THE SHOW!

TEXTILE WORLD extends a cordial invitation to all visitors to the show to stop and visit with us at Booths 222-223. Copies of our show directory and literature file folders will be available here for your personal use.

TEXTILE WORLD REPRESENTATIVES at the show during the week will include Edwin D. Fowle, publisher; P. M. Thomas, editor-in-chief; William Buxman, manager; and James H. Kennedy, Richard B. Pressley, Thomas B. Winston, George M. Moisson, Jr., Richard C. Scott, William B. Dall, J. C. White, Jr., Arch W. Fisher, H. C. Harvey, Ralph Chisholm, William G. Ashmore, John G. Sabella, and M. C. MacKenzie.

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☆ 17th SOUTHERN TEXTILE EXPOSITION ☆

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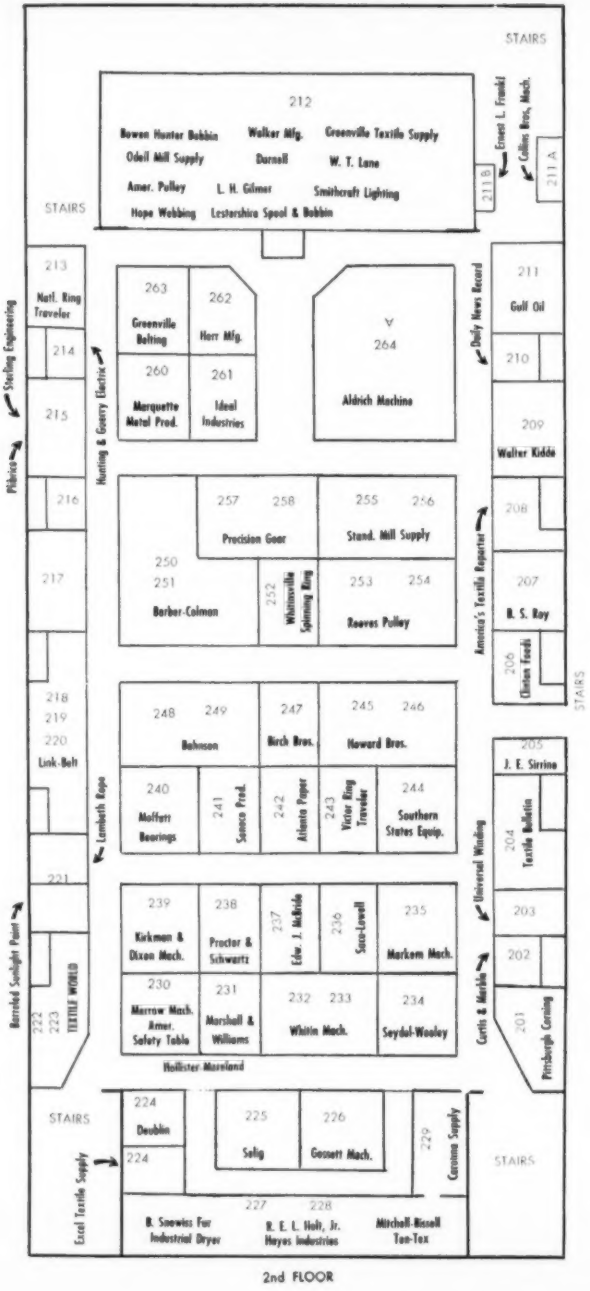

2nd FLOOR

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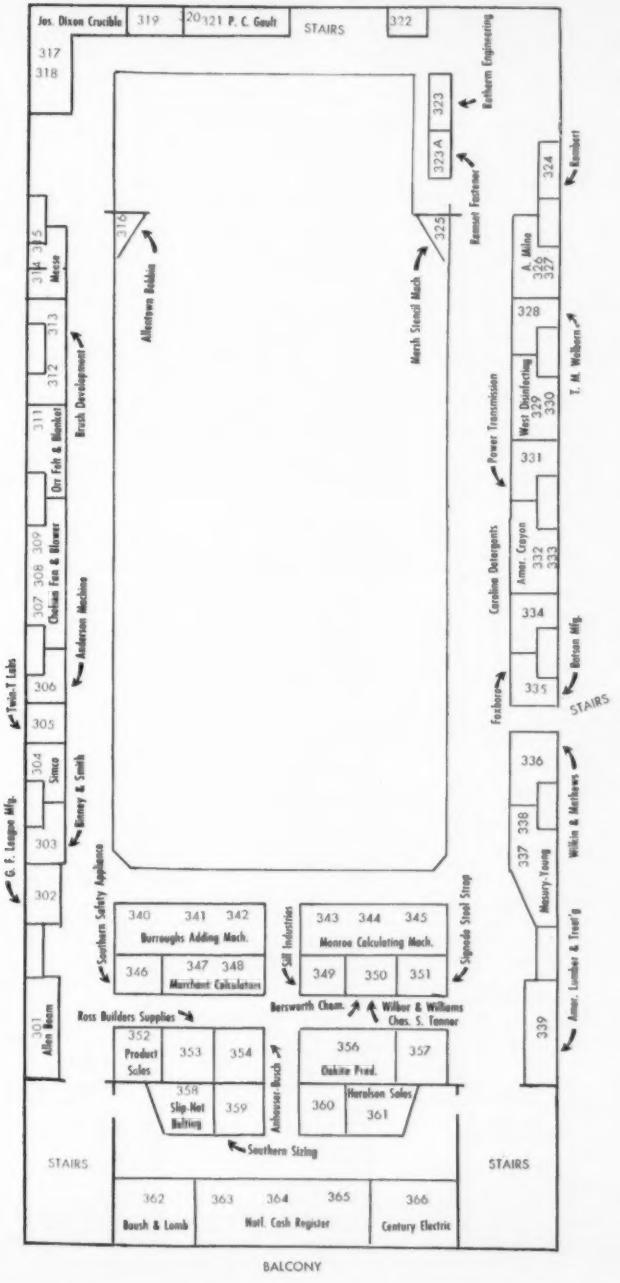

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Charlotte Mfg. Co.	Card clothing	142
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ALPHABETICAL LISTING OF EXHIBITORS

ABBOTT MACHINE CO., INC. (701)
Wilton, N. H.

Features an automatic filling winder.

Representative at booth:
L. S. Ligon

ACME STEEL PRODUCTS DIV., ACME STEEL CO. (131)
603 Stewart Ave. S. W., Atlanta, Ga.

Features a new textile strapping press, steel-strapping tools and equipment, as well as stitching machines.

Representative at booth:
J. G. Bauguss — J. B. Furr
W. S. Huss — R. C. Camp
G. R. Easley — M. M. Brown
W. G. Polley

ALDRICH MACHINE WORKS (264)
Greenwood, S. C.

ALLEN BEAM CO. (301)
130-156 River Road,
New Bedford, Mass.

Features new "Type M" double capacity wooden warper beams. Other high speed wooden warper beams and wooden beam heads will be shown.

Representatives at booth:
Woodrow Tinsley
J. Edwin Jones

THE ALLENTOWN BOBBIN WORKS, INC. (316)
417-431 N. 14th St., Allentown, Pa.

Features bobbins and spools for the processing of fine denier yarns.

Representative at booth:
Henry W. Mack

ALLIS-CHALMERS MFG. CO. (709)
Milwaukee 1, Wisconsin

Features a complete "Texrope" drive line including an automatic wide-range motion control drive with a "Magic-Grip" bushing and a wide-range stationary control drive with a "Magic-Grip" bushing. Type APQ textile motors with controls will also be shown.

Representatives at booth:
D. S. Kerr
G. H. Hoffman
William Parker
J. W. Roberts
H. C. Sells
G. A. Wampler
L. T. Brueggeman
H. A. Wright
Harvey Reinhard

THE LOUIS ALLIS CO. (110A)
427 E. Stewart St., Milwaukee 7, Wis.

Features adjustable-speed drives for slashers and finishing operations, loom motors, self-cleaning textile motors, and other types of rotating equipment.

Representatives at booth:
M. E. Weitekamp
R. J. Overstreet
C. G. Skidmore
M. F. Aynes
R. C. Wareham
H. L. Kelly
W. J. Altschwager

ALVEY CONVEYOR MFG. CO. (602)
9301 Olive St. Road, St. Louis 24, Mo.

Features a complete circulating conveyor system with a power-belt conveyor, a live-roller conveyor, a gravity conveyor and curves, and a patented "traffic cop."

Representatives at booth:
Curran Easley
Fred W. Nollman
C. H. Adamson

AMERICA'S TEXTILE REPORTER (208)
296 Congress St., Boston 10, Mass.

Features a textile publication.

AMERICAN AIR FILTER CO., INC. (467, 468)
215 Central Ave., Louisville 8, Ky.

Features electronic precipitators, air filters, and lint arresters.

Representatives at booth:
Harry Noles
James R. May
Henning Soderberg
John Hall
Kirk Cousart
E. V. Overcash
W. S. Mitchell
T. O. Curlee
Don McRae

THE AMERICAN CRAYON CO. (332, 333)
Sandusky, Ohio

Features specialized textile-mill crayons, including special marking crayons for shipping and warehousing, and lumber and metal markers. Prang-Old Faithful art

GENUINE REPAIR PARTS

. . . . a matter of DOLLARS and SENSE

See them at the
SOUTHERN TEXTILE EXPOSITION
GREENVILLE, S. C.
OCTOBER 6-11
SECTIONS 232 and 233

Repair parts are of vital importance to you. The continuous and efficient operation of your mill is dependent upon them. It simply does not make sense to entrust this critical phase of your operation to "mongrel" parts. Whitin machinery operates best with Whitin parts. It's as simple as that!

Whitin machines are precision built. Only Whitin Repair Parts can be machined to the same standards of finish and dimensional accuracy as the originals, insuring exact fit and ease of application. "Mongrel" parts not only give trouble in themselves, but often cause rapid wear and breakage of mating parts. It makes sense and saves dollars to insist on genuine Whitin parts!

Our plant in Charlotte, N.C. provides a nearby source of supply for Whitin Repair Parts and Repair Service to Southern mills. Make your repair parts problem our problem. You will find our staff of specialists in Repair Sales and Service helpful and valuable to you in working out your Repair needs.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

and handcraft materials will also be included in the exhibit.

Representatives at booth:
John E. Hester
Lon Watters

AMERICA LAVA CORP. (509)
Chattanooga 5, Tenn.

Features ceramic thread guides for machinery in knitting, weaving, preparation, and yarn-production mills. New standard guides will be shown.

Representatives at booth:
C. E. Richter Jay S. Gosnell
J. B. Shacklett

AMERICAN LUMBER & TREATING CO. (339)
332 South Michigan Ave., Chicago, Ill.

Features Wolmanized lumber, showing its use in the textile industry.

Representatives at booth:
B. H. Le Sueur M. R. Tallon
B. A. Burnside

AMERICAN MOISTENING CO. (125, 126)
260 West Exchange St., Providence 1, R. I.

Features products in connection with humidification, evaporative cooling (ductless and central station), and refrigeration.

Representatives at booth:
H. B. Bradford
Marvin McCall
Stewart Blanton
W. A. Mullins
J. D. Johnson
Leonard Terry
M. H. Irons
Joseph Boston
R. C. Holloway
W. L. Johnson
Jesse Waldrip

AMERICAN MONORAIL CO. (111, 112)
13108 Athens Ave., Cleveland 7, Ohio

Features automatic cleaning equipment, including creel-type automatic cleaners. Overhead-handling systems will also be shown.

Representatives at booth:
J. P. Lawrence
C. de V. Miller
E. H. Doerger
Frank Becker
H. A. Rehfeld
E. Forrest Kulp
L. R. McEachern
E. G. Peterson
J. W. Lamprecht
C. O. Setzer
Henry McKinney

AMERICAN PAPER TUBE CO. (108)
93 Hazel St., Woonsocket, R. I.

Features a new "Plasti-weld" synthetic all-purpose automatic loom bobbin and "Plasti-weld" spinning frame bobbin for the Gwaltney frame.

Representatives at booth:
Dannitte M. Beattie
Frederic L. Chase, Jr.
Samuel F. Adams
George M. Sanford, Jr.
Harold L. Amrhein
Robert J. Guerin

THE AMERICAN PULLEY CO. (212)
4200 Wissahickon Ave., Philadelphia, Pa.

Features an improved individual cotton-card drive. Will also show the American individual cotton card drive, the adjustable-speed spinning-frame drive, adjustable sheaves, the "Econ-O-Matic" tension-control motor base and the American cotton hand truck.

Representatives at booth:
James E. Williams
Cliff Hazen
Walter L. Connell
Randolph H. Jackson
Caleb F. Fox

AMERICAN SAFETY TABLE CO., INC. (230)
Eighth & Oley Sts., Reading, Pa.

Features AMCO individual stands and motor drives, a new bar mounting, and a butt-seaming stand.

Representatives at booth:
Julian C. Frankel
Robert Moreland
O. S. Bachelor
Lane Burris
J. B. Moreland

ANDERSON MACHINE SHOP, INC. (306)
Brook Road, Needham Heights, Mass.

Features the Pacific evenness tester.

Representatives at booth:
Angus G. Anderson
James M. Anderson
Rita Casby

ANHEUSER-BUSCH, INC. CORN PRODUCTS DEPT. (354)
1112 Johnston Building, Charlotte, N. C.

Features starches, dextrines, and gums.

Representatives at booth:
A. C. Mohr
Ken Battenfield
Charles H. Conner, Jr.
Robert A. Lemleux

ARMSTRONG CORK CO. (141)
Lancaster, Pa.

Features a spinning frame with latest long-draft attachments demonstrating Accotex cots and aprons. Also newer models of Armstrong's buffing machines and an assortment of mill supply items, including loom and friction items and pickers.

Representatives at booth:
T. L. Hill T. H. Weaver
J. V. Ashley W. A. Simmons
H. H. Jordan F. D. Hamre
W. T. Coker, Jr.
A. M. Ankrom
A. C. Littlejohn

ARMSTRONG MACHINE WORKS (453, 454A)
Three Rivers, Michigan

Features a new electric control for air-actuated humidifier units. The Armstrong inverted-bucket steam traps, air traps, and steam humidifiers will also be shown.

Representatives at booth:
T. M. Reed O. E. Ulrich
Allan T. Shepherd

ASHWORTH BROS., INC. (123, 124)
89 G'obe Mills Ave., Fall River, Mass.

Features card clothing and woven-wire conveyor belts.

Representatives at booth:
R. C. Ashworth, Jr.
W. J. Flynn, Jr.
F. L. Armitage
A. R. Bechtel
J. M. Reed
A. E. Johnston, Jr.
A. E. Johnston, Sr.
H. Ashworth
J. E. Seacord
T. F. Hart
Ray Clary
George Davis

ATKINSON, HASERICK & CO. (601)
211 Congress St., Boston 6, Mass.

Features gilling and preparatory machinery for worsteds and synthetics, including a new blending gill box with a 3-roll take off, a new cone gill reducer, and a new single-head gill reducer with a 3-can delivery.

Representatives at booth:
F. E. Bozeman, Jr.
Clarence O. Smith
Walter P. Rutley
Walter Stearns
Charles Curran

ATLANTA BRUSH CO. (447, 448)
Box 1358, Atlanta 1, Ga.

Features textile brushes.

Representatives at booth:
Howard R. Cook
William C. Perkins
George B. Snow
A. W. Dillard
James Proctor, Jr.

ATLANTA PAPER CO. (242)
Atlanta 2, Ga.

Features corrugated and solid-fiber shipping containers and display folding cartons. New merchandising cartons and packages for towels, sheets, and other textile products will be shown.

Representatives at booth:
V. C. Shutze John Crawford
W. T. Evans Walter Wolff
Harry Olson B. E. Frankel
Henry Bauer Herbert Mulse

ATLANTIC GELATIN, DIV. OF GENERAL FOODS (502)
Woburn, Mass.

BACHMANN UXBRIDGE WORSTED CORP. (502)
Uxbridge, Mass.

Features the new Model-B Uxbridge Gentle Air slasher dryer and the hot-air slasher dryer.

Representatives at booth:
Paul Wenzel
Ira L. Griffin
Edward Creighton

THE BAHNSON CO. (248, 249)
1001 South Marshall St., Winston-Salem, N. C.

Features the company's line of air-conditioning and humidification equipment, including the Type-S air cleaner in operation, the Type-E humidifier, and the Type-B automatic suction strainer.

Representatives at booth:
S. C. Stimson A. E. Thomas

BARBER-COLMAN CO. (250, 251, 259)
1300 Rock St., Rockford, Ill.

Features a drawing-in machine and accessories as well as parts. A new heddle counter and checker and a new power pattern punch will also be shown.

Representative at booth:
F. D. Taylor

BARCO MFG. CO. (469)
1801 West Winnemac Ave., Chicago 40, Ill.

Features revolving steam joints, flexible ball joints, swivel joints, and swing joints.

Representatives at booth:
F. M. Moore J. O. Heyworth
Grady Johnston

BARRELED SUNLIGHT PAINT CO. (221B)
12 Dudley St., Providence, R. I.

Features Barreled Sunlight "Engineered Color," which consists of machinery, wall, and dado finishes in eight different colors. Other paint products showing their use in the maintenance of buildings and equipment will be included.

Representatives at booth:
Howard F. Eastwood
C. L. Park
T. C. Roggenkamp
P. R. Singletary
T. J. Edwards, Jr.
J. O. Weddle

THE BASSICK CO. (409)
Bridgeport, Conn.

Features a complete line of industrial casters. New heavy-duty precision casters, sealed wheels, and casters with built-in knee action will be shown.

Representatives at booth:
A. J. Israel
Hugh Marshall
Charles Hutchinson
Charles Bontems
E. P. Ripley

BATSON MFG. CO., INC. (335)
Fair St., Park Pl., Greenville, S. C.

Features binders, lease rods, clearer rolls, clearer boards, jack sticks, wooden cones, wooden adapters, bobbins, shuttle fur, temple rolls, anchoring pads for looms, and check straps.

Representatives at booth:
John P. Batson
Mrs. Louis P. Batson
Richard A. Owings
David Murphy
Louis P. Batson, Jr.
Miss Louise Kellett

BAUSCH & LOMB OPTICAL CO. (362)
635 St. Paul St., Rochester 2, N. Y.

Features the Ortho-Rater. Operators will be on hand to test interested persons.

Representatives at booth:
C. P. Brownell J. B. Hickey

BERSWORTH CHEMICAL CO. (350)
875 Waverly St., Framingham, Mass.

Features chelating and sequestering agents.

BIJUR LUBRICATING CORP. (116)
151 W. Passaic St., Rochelle Park, N. J.

Features central lubricating systems in use on various types of textile machines. A full size model of the Bijur central system will be shown on a Saco-Lowell spinning-frame head end.

Representatives at booth:
W. O. Wright H. J. Auten
C. M. Lassiter

BINNEY & SMITH CO. (303)
41 E. 42nd St., New York 17, N. Y.

Features marking chalks and crayons.

Representatives at booth:
Wayne G. King
Walter D. Alexander
E. B. Skedden
William Perry

BIRCH BROS., INC. (247)
32 Kent St., Somerville, Mass.

Features textile dyeing and finishing machines and mill sewing machines. A new cloth-inspecting machine will also be shown.

Representatives at booth:
Harold W. Birch
Clifford W. Birch, Jr.
Richard Briggs
Francis W. Birch
John C. Cosby

BENJAMIN BOOTH CO. (114)
Allegheny Ave. & Janney St., Philadelphia 34, Pa.

Features card clothing, including a new type Strip-O-Matic card clothing.

Representatives at booth:
E. A. Snape, Jr.
Robert Todd
Oliver D. Landis
Charles G. Stover
Fred E. Antley
P. W. Coleman

BOWEN-HUNTER BOBBIN CO., INC. (212)
East Corinth, Vt.

Features card-room, automatic loom, warp, and twister bobbins, as well as cones, rolls, and tubes. All of these items have new durable finishes.

Representative at booth:
E. A. Belville

The fastest and most economical Warp Tyer in America...

Visit our Exhibit—Booth No. 503 at the 17th Southern Textile Exposition, Greenville, S. C. October 6 thru 11, 1952.

TITAN WARP TYING MACHINE

Southern cotton mill reports tying 103,984 ends in 8 hours.

Another mill reports tying over 80,000 ends in 8 hours of heavy sley cotton and spun rayon.

- All straight, perfect weaving warps.
- No double ends.
- No reed disturbance or harness setting.
- Ties more ends per minute at lower costs.
- Ties warps with or without leases and unleased to leased warps or vice versa.
- Ties nylon, rayon, wool, worsted, cotton, silk, glass or combination yarns.
- Is simply designed for ease of operation.
- Ties portable and/or stationary.

Southern Representative:
Ira I. Griffin & Son, 1429 Bryant Street, Charlotte 1, N. C.

EDDA INTERNATIONAL CORP.
668 FOURTH AVE., NEW YORK 16, N. Y. CALHOUN TOWERS, GREENVILLE, S. C.
U. S. General Sales Agents

TEXMA REED GRINDING AND BRUSHING MACHINE

- Accommodates reeds up to 8 feet in length.
- Operates automatically — can be left unattended.
- No special tools or parts required.
- Mechanically grinds and brushes reeds in one operation.
- Grinds or brushes separately if desired.
- Eliminates slow and costly manual cleaning.
- Puts used reeds in perfect condition again.
- Prevents reeds from being unduly discarded — can be used many times over.
- Will pay for itself in comparatively short time by minimizing purchases of new reeds, and in better weaving.

GUIDE TO EXHIBITORS *(Continued)*

BRUSH DEVELOPMENT CO. (312, 313)
3405 Perkins Ave., Cleveland 14, Ohio

Features the BL-314A Uniformity Analyzer and the BL-320 Universal Strain Analyzer.

Representatives at booth:
E. M. Ensley
W. Rooney

THE BULLARD CLARK CO., E. H. JACOBS NORTHERN DIV. (443)
Danielson, Conn.

Features a new thread cutter, a new type of loom let-off motion, a new heatless picker rod, a holdup with a new design, and a new checking device. Lug straps, strapping, picker and jack sticks, sweepsticks and connectors, dobby cords, pickers, bumpers, race plates, binders, swells, cloth-roll blocks, box plates, brake lining, sand and take-up roll covering with canvas, leather, rubber, plastic, plyweld, hickory, rubberized-fabric, and interwoven-fabric construction.

Representatives at booth:
Edward J. Bullard
William R. Muller
B. T. Clark
C. W. Cain, Jr.
S. B. Henderson
L. L. Fronneberger
F. Worth Beaver
L. J. McCall
Ralph M. Briggs
Hill Heacock
Thomas Soucy, Jr.
F. B. Pellington
John Normington
Wallace MacMaster

BURROUGHS ADDING MACHINE CO. (340, 341, 342)
6701 Second Ave., Detroit 32, Mich.

Features the Sensimatic 300, a newly developed typewriter-accounting machine, microfilm equipment, adding machines, calculators, and various Sensimatic models featuring payroll, general-accounting, and accounts-receivable, and general-ledgering equipment.

Representatives at booth:
H. A. Mullen
J. W. Duggan
E. C. Dawson
E. H. Dance
B. C. Smith

CAROLINA BEARINGS DIV., TENNESSEE BEARINGS, INC. (439)
231 E. Washington St., Greensboro, N. C.

Features ball-bearing card-cylinder bearings, card licker-in bearings, card doffer bearings, ball-bearing units for roving frames and draw frames, special ball-bearing units for looms, and spinning-frame jack-shaft and cam bearings. Bunting-bronze bushing and bar stock and Owatonna bearing-removal tools will also be shown.

Representatives at booth:
E. F. Brown
G. M. Boullion
David Mason
F. M. Roller
R. H. Schipper
Jim Boling

CAROLINA DETERGENTS, INC. (334)
313 N. Main St., Anderson, S. C.

Features cleaning equipment and supplies, floor-finishing products, as well as general-maintenance products. The new Flex-Seal for finishing concrete, a heavy-duty clear seal, and new rust-preventive materials will be shown.

Representatives at booth:
H. O. Comp
George W. Speer

CAROLINA SUPPLY CO. (229)
35 W. Court St., Greenville, S. C.

Features textile-mill supplies.

Representatives at booth:
H. W. Harrison
Claiborne Mardre
Eddie Harrison
W. A. Wallace
Ben Verdin
Broadus Elletson
John Crawford
H. L. Stevenson
Clyde Shoaf

A. B. CARTER, INC. (121A)
220 S. Linwood St., Gastonia, N. C.

Features Boyce weavers' knotters and Carter travelers.

Representatives at booth:
A. D. Carter
E. Haines Gregg
E. L. Ramsey
J. B. Carter
P. L. Piercy
J. W. Brown
R. A. Haynes
J. K. Davis
W. L. Rankin
J. R. Richie

CENTURY ELECTRIC CO. (366)
1806 Pine St., St. Louis 3, Mo.

Features latest selective-speed lint-free textile motors with a demonstration unit showing the "Lint Flow" qualities, a motor field showing the company's insulation process, and some 550-v. fractional-horsepower motors.

Representatives at booth:
R. N. Hill
George C. Henderson
Earl S. Moore
Fred Powers
Gilbert Bumann
Richard E. Lynch
Thomas K. McKamy
W. C. Kohl
H. McInerney

CHARLOTTE MFG. CO. (142)
Charlotte, N. C.

Features card clothing.

Representatives at booth:
R. P. Bullard
A. J. Turner
A. D. Ennis

CHELSEA FAN & BLOWER CO. (307, 308, 309)
639 South St., Plainfield, N. J.

Features industrial and power-line fans.

Representatives at booth:
C. C. Niedringhaus
E. W. Lohman
Henry W. Clower

CLARK EQUIPMENT CO., INDUSTRIAL TRUCK DIV. (501)
Battle Creek, Mich.

Features fork trucks, electric hand trucks, and a gas-towing tractor. Attachments to be featured are the standard two-bale clamp, a rotating two-bale clamp, and a new break-out attachment.

Representatives at booth:
W. E. Schirmer
J. R. Titlow
Milton G. Peck
John J. Shand
E. M. Sharp
E. V. Wiley
B. E. Phillips
Peter Paul Lukas
G. E. Boyce
Don Beck
Fred J. Vandemark
L. A. Wilson
H. W. West
Russell F. Oakes
H. R. Hansen

CLINTON FOODS, INC. (206)
Clinton, Iowa

Features products from corn.

Representatives at booth:
H. A. Bendixen
R. C. Rau
Grady Gilbert
J. Frank Rogers
Boyce Estes
E. F. Patterson

COLBY COOPERATIVE STARCH CO. (502)
Caribou, Maine

Representatives at booth:
A. P. McLean
Ira L. Griffin, Sr.
Ira L. Griffin, Jr.
Mason H. Dorsey
John Tillett, Jr.

COLLINS BROS. MACHINE CO. (211A)
647 Roosevelt Ave., Pawtucket, R. I.

THE COLSON CORP. (470, 471)
Elyria, Ohio

Features a complete line of wheels and casters and materials-handling trucks.

Representatives at booth:
W. C. Shea
R. S. McCauley

CONTAINER CORP. OF AMERICA (127A)
Manayunk, Philadelphia 27, Pa.

Features promotional and automatic paperboard packaging.

Representatives at booth:
T. L. Benson
Howard Dale
Rita G. Macintosh

CONTINENTAL-DIAMOND FIBRE CO. (106)
Newark, Del.

Features Diamond vulcanized-fiber receptacles consisting of mill boxes, tote boxes, doffing trucks — including the new cans, and barrels. Loom parts of vulcanized-fiber and Dilecto-laminated phenolic plastics as well as Celoron silent gears will be on display.

Representatives at booth:
H. M. Dexter
C. L. Simmons, Jr.
A. D. Gray
G. W. von Seth

CORN PRODUCTS SALES CO. (452)
1304 South Carolina National Bank Bldg., Greenville, S. C.

Features Globe-Brand dextrines and gums and Globe-brand and Eagle-brand starches.

Representatives at booth:
J. A. Simpson — W. Bailey
L. H. Kelley — J. Hill
A. Hardin — H. Becker
W. R. Joyner — R. H. Scott
J. T. Sewall

WILLIAM CRABB & CO. (506A)
P. O. Box 95, Black Mountain, N. C.

Features the new steel-faced cotton picker lag and new stainless-steel pins for picking synthetic fibers.

Representatives at booth:
J. C. Bennett
W. E. Macpherson
John Bennett, Sr.

CURTIS & MARBLE MACHINE CO. (202)
72 Cambridge St., Worcester 3, Mass.

Features a reception booth.

Representatives at booth:
Ralph L. Marble
Walter F. Woodward
Frank H. MacKay

CUTLER-HAMMER, INC. (460)
Milwaukee, Wis.

Features motors and controls for the textile industry.

DAILY NEWS RECORD (210)
7 East 12th St., New York 3, N. Y.

Features a textile publication.

DARNELL CORP. LTD. (212)
Long Beach 4, Calif.

Features casters and wheels.

Representative at booth:
A. H. Seymour

DAYTON RUBBER CO. (135)
2342 Riverview Ave., Dayton 1, Ohio

Features natural and synthetic-rubber products for textile machinery.

Representatives at booth:
J. O. Cole
W. L. Morgan
J. L. Davis
C. J. James
J. T. Edwardo
H. M. Manchester
T. A. Sizemore
K. K. Karns
T. W. Meighan
J. M. Hubbard
Emory Howell
D. C. Greer
R. L. Wetzel
J. R. Young

DEUBLIN CO. (224A)
1155 Waukegan Rd., Glenview, Ill.

Features a complete line of ball-bearing rotating steam, water, and air unions with the "Balanced Seal" design for use on dry cans, slashers, and calenders. A new $\frac{5}{8}$- and a $\frac{1}{4}$-in. I.P.S. rotating union will also be shown.

Representatives at booth:
L. H. Deubler — W. B. McCoy
R. L. Linn

DILLARD PAPER CO. (102A)
315 W. Washington St., Greenville, S. C.

Features new lines of hosiery envelopes and inserts as well as a new bale wrap.

Representatives at booth:
J. L. Griffin — L. S. Bloom
L. M. Murphy

DIXIE LEATHER CORP. (507)
Albany, Georgia

See Graton & Knight.

JOSEPH DIXON CRUCIBLE CO. (317, 318)
167 Wayne St., Jersey City 3, N. J.

Features silica-graphite paints, all-purpose maintenance enamels, graphite and graphited greases, crucibles and refractories, pencils, and textile crayons.

Representatives at booth:
Millard H. Jackson
Hill Scoggin
Gray McChesney

DIXON LUBRICATING SADDLE CO. (401)
182 High St., Bristol, R. I.

Features new saddle assemblies with Rulon bearings; the new Lo-Friction bobbin holders; and a new weight measurer. Also included in the exhibit will be saddles, stirrups, levers, lever screws, and other parts for weighting and guiding top rolls of spinning and roving frames. The Rulon plastic bearing material and molded Teflon rods, as well as tubes and shapes, will also be shown.

Representatives at booth:
R. R. Miller — W. Tabor
W. R. Potter — J. W. Davis
R. E. L. Holt, Jr.

THE J. E. DOYLE CO. (504)
1220 W. Sixth St., Cleveland 13, Ohio

Features fully automatic infrared dryers and "Statikil", a new self-spraying chemical for the elimination of static electricity.

Representatives at booth:
C. C. Doyle — D. Doyle
J. E. Doyle

DRAPER CORP. (132, 133, 134)
Hopedale, Mass.

Features a 72-in.-model loom with a 2x1 box motion, head motion, 32-in. beam, and a set-mark eliminator; a 50-in. X-2 model loom with a Draper-Diehl power transmitter, center fork, and ratchet take-up; a 40-in. E-Model loom with all latest improve-

Put 'em on a diet . . . with Pure Oil Industrial Lubricants

In the complete line of high-quality industrial lubricants Pure Oil makes, you will find many oils and greases designed to do several *different* jobs, instead of one specific job.

And to do each job *equally well.*

This makes it possible for you to do *all* your lubricating with *fewer* lubricants. In other words, you can

simplify and save . . . with Pure Oil Industrial Lubricants

If you would like to keep your lubrication requirements from hogging your profits (and a penny saved is more than ever a penny earned, these days!) write: The Pure Oil Company, Industrial Sales, 35 E. Wacker Drive, Chicago 1, Illinois.

THE PURE OIL PURE COMPANY, U.S.A.

Be sure with Pure

ments; a repair-parts display, a shuttle display, and a ring and spindle display; as well as a No.-11 motor-drive mechanism and a No.-10 motor drive.

DRONSFIELD BROS. LTD. (101)

Oldham, England
John Hetherington & Sons, Inc., Gastonia, N. C., sole agents.

Features card-grinding and card-mounting machinery. A new bare-cylinder grinder, flat cleaner #243, and card-point tipper #190 will be on exhibit.

Representatives at booth:
S. W. Dronsfield
C. Bradbury
John R. Knoblock
Thomas M. Brockman

E. I. du PONT de NEMOURS & CO., INC., FINISHES DIV. (440)

Wilmington, Del.

Features "color—conditioning" finishes for mills, mill villages, and textile machinery.

DURANT MFG. CO. (127)

1931 N. Buffum St., Milwaukee 1, Wis.

Features pick and hank counters; rotary, lineal yardage, predetermined, and electric productimeters. A new doff meter for predetermined applications on looms, twisters, and spinning frames will also be shown.

Representatives at booth:
R. B. Winkler — Herman Bohr
H. V. Barker — F. W. Bowen
L. A. Nourie — Lewis Mallory
Frank Robbins

EDDA INTERNATIONAL CORP. (503)

468 Fourth Ave., New York 16, N. Y.

Features the Titan automatic warp-tying machine and the Texma reed grinder and brusher.

Representatives at booth:
B. Gudjonsson — H. Lindqvist
H. A. Nagel

EDGCOMB STEEL CO. (461, 462)

527 Atando Ave., Charlotte, N. C.

Features steel, aluminum, brass, copper, and stainless-steel tool steels.

Representatives at booth:
Frank F. Rose
Thomas A. Wilder
W. Paul Holt
W. R. James, Jr.
Austin S. Reed
William B. Hood
J. B. Owen
P. B. Kline

ERIEZ MFG. CO. (104)

420 Commerce Bldg., Erie, Pa.

Features ATOMagnets, a new spiked apron magnet, ATO-Magnet humps, magnetic pipeline trap, and a magnetic rotary sweeper.

Representatives at booth:
R. A. Roosevelt — H. Hersey
L. P. Zumstein — D. Thomas

EXCEL TEXTILE SUPPLY CO. (224B)

Lee Ave., Lincolnton, N. C.

Features materials-handling equipment, including several new trucks.

Representatives at booth:
N. W. Eurey
Paul H. Eurey

THE FAIRBANKS CO. (102)

393 Lafayette St., New York 3, N. Y.

Features new "Bantamweight" platform hand trucks; new 3- and 8-in. double-ball-race "Lockweld" steel casters; new 8-in. single-ball-race steel casters; new 8-in. steel rigid casters. Two-wheel and platform hand trucks, bronze- and iron-body valves, and "Dar" and "Pic" unions will also be shown.

Representatives at booth:
Edmund T. Flanagan
Philip M. Fallon
Hugh Sims
Michael Chalverus
James Ragland
Charles Freeman

FAIRBANKS, MORSE & CO. (706)

600 S. Michigan Ave., Chicago 5, Ill.

Features pumping equipment, scales, fire protection equipment, an emergency power unit, electrical and water-supply equipment.

Representatives at booth:
W. T. Jahn — C. E. Reed
E. W. Morgan — J. R. Frost
E. M. Goodman — J. B. Terrell
W. B. Baxter — C. H. Nash

FAULTLESS CASTER CORP. (513)

1521 N. Garvin St., Evansville, Ind.

Features casters as adapted for the textile industry, including a Faultless spinning roll and a spindle.

Representatives at booth:
J. H. Davis — R. A. Madson
Robert B. Burris

FIBRE SPECIALTY MFG. CO. (473)

1718 Girard Trust Bldg., Philadelphia 2, Pa.

Features hard vulcanized-fiber equipment including roving cans; doff trucks; mill boxes. Materials-handling boxes and trays of Fiberglas reinforced with plastic, as well as Fiberglas-reinforced plastic trucks will be shown.

Representatives at booth:
R. G. Henderson
R. A. Craig
Courtland Hannum
W. M. Harbaugh
Frank Lee
Layton S. Allen
Will-Best Plowden
Davis E. Williams
D. T. Sterling
Ralph Woods

FINNELL SYSTEM, INC. (110)

Elkhart, Ind.

Features include the Model 418P and 213P combination scrubber-vacuum machines, a 10B vacuum, and 100- and 600-series polishing machines. Other products for floor maintenance will also be shown.

Representatives at booth:
R. M. Harter — J. E. Bates

THE FOXBORO CO. (418)

Foxboro, Mass.

Features instruments for the measurement and control of process variables, including flow, liquid level, pressure, humidity, temperature, and pH.

Representatives at booth:
W. W. Barron — S. C. Alexander
J. W. Gordon — H. A. Ruddock
W. H. Ridley — F. H. Leathers
E. W. Prendergast

ERNEST L. FRANKL ASSOCIATES (221B)

22 E. 40th St., New York, N. Y.

Features small segments of machines and illustrated material covering all French-worsted combing, preparation, and spinning equipment manufactured by Sant'Andrea S. A. (Officina Meccanica Sant'Andrea Novara, Novara, Italy).

Representative at booth:
Ernest L. Frankl

THE FULLER BRUSH CO., INDUSTRIAL DIV. (441)

Fuller Park, Hartford 2, Conn.

Features textile cleaning brushes of all types. The new Fullergript power-driven slasher brush, the new Fullergript spike apron cleaning brush, and the new Fullanchor wire wheel brushes will be shown. Power-driven textile brushes for carding, shearing, nap raising, and slashing, as well as brushes for other manufacturing and finishing processes, will be on display. Also included are heavy-duty cleaning tools including brooms, brushes, mops, waxes, polishes, and fiber textile brooms.

Representatives at booth:
F. E. Bieber — J. A. Hash
J. C. Henry — E. W. Mason

GASTON COUNTY DYEING MACHINE CO. (708)

Stanley, N. C.

Features laboratory equipment for beam, package, raw-stock, and knit-garment dyeing, both conventional and high temperature. A new laboratory-model high-temperature, knit-garment dyeing machine with a capacity of 5 lb. will be included in the exhibit.

Representatives at booth:
G. H. Hacker — R. P. Craig
Gordon Hacker

GATES RUBBER CO. (420, 421, 422)

999 S. Broadway, Denver 17, Colo.

Features include Tex-Hide lug straps, loop pickers, reversible pickers, multi-check straps, harness straps; Super Tex-Hide lug straps; Tractive-Rib take-up-roll covering; and cone belts, evener belts, V-Belt loom drive, and vulco-rope drives for textile machinery. A new variable-speed spinning frame drive will also be shown.

Representatives at booth:
J. L. Wescott — B. H. Snapp
E. J. Nelson — F. T. Boyce
R. A. Denslow — F. W. Smith
H. W. Haynes — F. R. Carson
D. H. T. Jewett — A. P. Pope
R. F. Lamb — V. G. Nelson

P. C. GAULT CO. (320, 321)

2 Aberdeen Drive, Greenville, S. C.

Features a new name-touch executive station, a new anti-noise telephone circuit, and a new explosion-proof telephone. The Kellogg Select-O-Phone and call systems will be on display.

Representatives at booth:
P. C. Gault — Hugh Tulane
J. G. Digh, Jr. — Carl Megelin
H. D. Sweetser — J. W. Welsh
J. E. Marshall — C. H. George

GENERAL ELECTRIC CO. (117, 118, 119)

1 River Rd., Schenectady 5, N. Y.

Features loom motors and controls.

GILMAN PAINT & VARNISH CO. (431)

517 Market St., Chattanooga, Tenn.

Features paints, varnishes, lacquers, enamels, and brushes.

Representatives at booth:
E. L. Gott — W. P. Dobson
R. C. Adams — J. M. Isom
L. C. Teeters — C. H. Dodson
R. B. Olney

L. H. GILMER CO. (212)

Tacony, Philadelphia, Pa.

Features the company endless-cord spinner belts, nylon loom strapping, shock-pad machinery mounts, V-belts, and timing belts.

Representatives at booth:
W. E. Combs — R. Y. Case
W. A. Lindfors — J. W. Pitt
W. W. Conrad

GOSSETT MACHINE WORKS (226)

P. O. Box 979, Gastonia, N. C.

Features textile equipment.

RALPH GOSSETT & CO. (703)

204 Crawford Bldg., Greenville, S. C.

Features an improved Wicaco spindle-oiling machine; new types of bobbins for synthetics; a Tension-Rite instrument for thread-friction testing; new types of weaving equipment.

Representatives at booth:
Ralph Gossett
Ralph Gossett, Jr.
R. L. Carroll
R. T. Hamner

GRATON & KNIGHT CO. (507)

356 Franklin St., Worcester, Mass.

Features leather pickers, check straps, lug straps, lug hold-up straps, harness leathers, binder and box-plate leathers, heel and jack straps, spindle bumper straps, comb- and gill-box aprons, rub-roll aprons, condenser tapes, leather belting, and belt dressing—including the new Grako "Sprazon" belt dressing.

Representatives at booth:
J. Henrikson
W. F. MacAnulty
D. N. Patterson
E. Pickett
J. L. Parker

GREENVILLE BELTING CO., DIV. of SCHMIDT MFG. CO. (263)

206 Emile Ave., Greenville, S. C.

Features recent developments on loom strapping, picker sticks, bumper and check straps, shuttle linings, harness equipment, and other loom accessories. The latest-model Shawmut rotary automatic reed-cleaning machine will be on display. The Schmidt "Beamhandler" will be demonstrated.

Representatives at booth:
Clayton E. Schmidt
Ralph F. Schmidt
Lee Shook
C. C. Rhodes
Ken Walker

GREENVILLE TEXTILE SUPPLY CO. (212)

504 Rhett St., Greenville, S. C.

A manufacturers' representative.

IRA L. GRIFFIN & SON (502)

P. O. Box 1576, Charlotte 1, N. C.

A manufacturers' representative.

GULF OIL CORP. (211)

Gulf Building, Pittsburgh, Pa.

Features textile mill lubricants.

Representatives at booth:
A. O. Buntin
John Hooten
O. K. Weatherwax
Charles Timmons

HARALSON SALES CO. (361)

619 S. 11th St., Birmingham 5, Ala.

Features Stanley magic-door controls, including automatic sliding and swinging-door controls.

Representatives at booth:
Jonathan Haralson
Frank M. Hatcher
Chas. K. Nichols
Jos. Tlanda

HAYES INDUSTRIES, INC. (227, 228)

437 Fern Ave., Jackson, Mich.

Features a newly designed aluminum adjustable loom beam. Other aluminum and magnesium section beams and tricot beams will be shown.

Representatives at booth:
W. H. Maxson
R. E. L. Holt, Jr.
Floyd New
David R. Sellars
James R. Smith
J. B. Adams

HERR MFG. CO., INC. (262)

318 Franklin St., Buffalo 2, N. Y.

Features a complete line of conical rings and holders, as well as flyers to meet all mill conditions. Included are spe-

Marquette
ROLLER BEARING SPINDLES
with Full-Floating Footstep Bearing

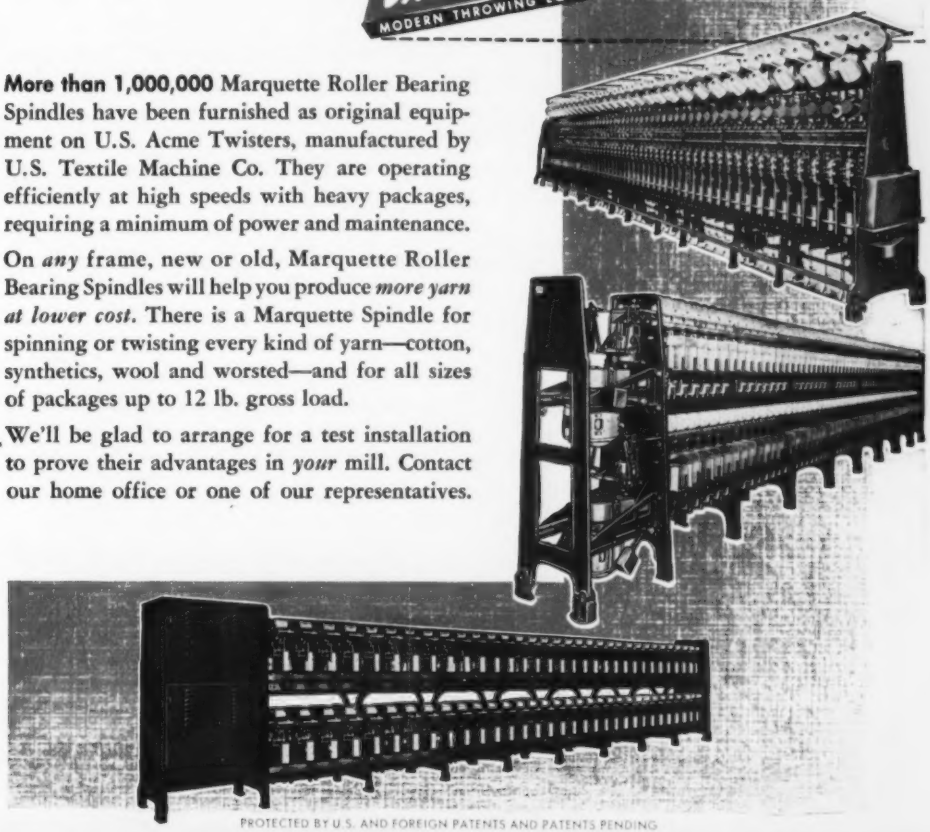
standard equipment on U.S. ACME TWISTERS

MODERN THROWING EQUIPMENT

More than 1,000,000 Marquette Roller Bearing Spindles have been furnished as original equipment on U.S. Acme Twisters, manufactured by U.S. Textile Machine Co. They are operating efficiently at high speeds with heavy packages, requiring a minimum of power and maintenance.

On *any* frame, new or old, Marquette Roller Bearing Spindles will help you produce *more yarn at lower cost*. There is a Marquette Spindle for spinning or twisting every kind of yarn—cotton, synthetics, wool and worsted—and for all sizes of packages up to 12 lb. gross load.

We'll be glad to arrange for a test installation to prove their advantages in *your* mill. Contact our home office or one of our representatives.



PROTECTED BY U.S. AND FOREIGN PATENTS AND PATENTS PENDING

The Marquette METAL PRODUCTS COMPANY

CLEVELAND 10, OHIO • SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

Also Manufacturers of: HYDRAULIC GOVERNORS • FUEL OIL PUMPS • PRECISION PARTS AND ASSEMBLIES
WINDSHIELD WIPERS FOR AIRCRAFT, TRUCKS AND BUSSES • FUEL OIL INJECTORS

cial conical rings designed to take care of the spinning and twisting of all synthetic and blended yarns, as well as special light-weight flyers for light yarns and high spindle speeds.

Representatives at booth:
Hyatt B. Atwood
Charles M. Klitzmiller

HOLLISTER-MORELAND CO., INC. (230)

609-10-11 Montgomery Bldg., Spartanburg, S. C.

A manufacturers' representative.

R. E. L. HOLT, JR. & ASSOCIATES, INC. (227, 228)

Jefferson Building, Greensboro, N. C.

A manufacturers' representative.

HOPE WEBBING CO. (212)

1005 Main St., Pawtucket, R. I.

Features spinning and twister tapes. The newly designed heavy-duty bear-grip twister tape will be shown, together with the lighter super- and regular-bear-grip tapes. A miniature 5-shuttle narrow-fabric loom will be in operation.

Representatives at booth:
Donald Campbell
Joseph A. Claude

HOWARD BROS. MFG. CO. (245, 246)

44-46 Vine St., Worcester 8, Mass.

Features card clothing and hand stripping cards.

Representatives at booth:
Harry C. Coley
Neal A. Mitchell
Carl M. Moore
Jack Lawrence
Harold S. Bolger
Charles A. Haynes, Jr.

THE HUBINGER CO. (502)

Keokuk, Iowa

Features corn starch for cotton warps and the new Waxy-R Gum #10.

Representatives at booth:
A. M. Robinson
J. P. Fanning
J. Max Seitz
W. B. Strickland

HUNT LOOM & MACHINE WORKS, INC. (129 & 130)

200 Academy St., Greenville, S. C.

Features single-shuttle automatic looms and loom parts.

Representatives at booth:
R. R. Hood
Jack Federline
J. C. Galloway
Haley Ector
C. G. Stover
W. E. Henderson

HUNTINGTON & GUERRY ELECTRIC CO. (214)

230 Buist Ave., Greenville, S. C.

Features industrial power- and lighting-wiring installations.

HYSTER CO. (419)

P. O. Box 847, Danville, Ill.

Features materials-handling equipment, including new turret trucks and new fork-lift trucks.

Representatives at booth:
Jack A. Cairns
R. F. Moody
George Wrenn
Jim Hubbard
Paul E. Wrenn
J. Preston Wrenn

IDEAL INDUSTRIES, INC. (261)

Bessemer City, N. C.

Features high-speed ball-bearing drawing changeover and repair, and fiber gears.

Representatives at booth:
A. W. Kincaid
E. B. Robinson
Joe R. Whitehurst
C. Jack Costner
A. S. Roebuck
E. F. Robinson
Frank B. McDonald

INDUSTRIAL DRYER CORP. (227)

432 Fairfield Ave., Stamford, Conn.

Features "H-W" conditioners for yarns and hosiery.

Representatives at booth:
P. H. Friend
F. W. Caesar
R. E. L. Holt, Jr.
David R. Sellars
Floyd A. New
James R. Smith
J. B. Adams

INTERNATIONAL BUSINESS MACHINES CORP. (449, 450, 451)

590 Madison Ave., New York 22, N. Y.

Features electronic and electric punched-card accounting machines, electric typewriters, and electric-clock time-recording and time-signaling systems.

Representatives at booth:
T. E. Clemmons
J. G. Darracott
M. J. Gorrie
N. M. Schwaner

JENKINS BROS. (435, 436)

100 Park Ave., New York 17, N. Y.

Features valves.

THE JOHNSON CORP. (454B, 455)

Three Rivers, Mich.

Features various sizes and types of Johnson rotary pressure joints; a demonstrator in operation on which will be installed a No. 300L-B2 1-in. Johnson rotary pressure joint with body-support lugs as well as the No. 100B2S ½-in. self-supporting Johnson rotary pressure joint. The Johnson "Speed-Heet" system as applied to 5- and 7-ft. cotton slashers will also be on exhibit.

Representatives at booth:
Allan T. Shepherd
Dolph Shepherd
Dewitt Skinner
William Parke Terry
James Croce
Benton Mallery
William T. Harding, Jr.
John Q. Marshall
W. R. Monroe
R. W. Gotschall
T. H. Abbey
Ted Abbey
James Vickers

KEARNY MFG. CO., INC. (515)

681 Schuyler Ave., Kearny, N. J.

Features the new Hygrolit yarn-conditioning machine, model 5-AY Extra. Yarn-conditioning chemicals as well as other chemicals for the industry will be included in the display.

Representatives at booth:
Charles F. Dulken, Sr.
H. E. Kresse
E. W. Ercklentz
P. J. Sturzenegger
H. J. Smith

KEEVER STARCH CO. (407)

1200 Woodside Bldg., Greenville, S. C.

Features a reception booth.

Representatives at booth:
James F. Kurtz
Charles C. Switzer
L. J. Castile
F. M. Wallace
E. Hays Reynolds
R. E. DeLapp, Jr.

KEYSTONE LUBRICATING CO. (402)

21st Clearfield & Lippincott Sts., Philadelphia 32, Pa.

Features specialized lubricants for all textile machines. A colorless lubricant for a centralized greasing system on twister rings, a special application of Keystone BB fittings to spinning frames, and a device for the application of grease through oil holes will also be shown.

Representatives at booth:
Albert Hobble — R. J. McGee
Vic Berguson — R. M. Goss

WALTER KIDDE & CO., INC. (209)

675 Main St., Belleville 9, N. J.

Features a double-disk compensator, a standard compensator, a warp compensator, an Abbott installation, and Kidde dry-chemical, carbon-dioxide, and wet-chemical fire extinguishers.

Representatives at booth:
D. Kroll — R. Breen
J. Flatley — F. Muller
J. Warwick

KIRKMAN & DIXON MACHINERY CO. (239)

Greenwood, S. C.

Features a tandem-unit K&D waste machine with a hopper-feeder attached, and a miniature K&D single-cylinder waste machine that will be in operation.

Representatives at booth:
Ira W. Dixon — C. M. Dixon
W. J. Langley — W. C. Dixon

LAMBETH ROPE CORP. (221A)

New Bedford, Mass.

Features their regular line.

Representatives at booth:
Julian P. O'Leary
Frank Burke
Stuart E. Campbell

W. T. LANE & BROS., INC. (212)

Poughkeepsie, N. Y.

Features basket trucks.

Representatives at booth:
J. M. Baker
R. T. Lane

G. F. LEAGUE MFG. CO. (302)

Box 125, Greenville, S. C.

Features precision wooden parts, new Fiberglas pirn holders, winder mandrels, quiller adaptors, and spooler-yarn-carrier parts, as well as other new weaving parts.

Representative at booth:
G. Frank League

LESTERSHIRE SPOOL & BOBBIN MFG. CO. (212)

Johnson City, N. Y.

Features twister bobbins and shipping packages.

Representatives at booth:
D. T. Sterling
J. H. Windle, Jr.
C. E. Lathrop
W. H. Hobbs

LINCOLN ENGINEERING CO. (510)

5701 Natural Bridge Ave., St. Louis 20, Mo.

Features a display of case-history installations of Lincoln centralized lubrication systems on a wide range of types and kinds of textile machinery. Also documented facts direct from management as to mill operation benefits derived. The display is incorporated into the background of the exhibit.

Representatives at booth:
A. P. Fox — A. Woodland
J. E. Renner — R. E. Creen
T. V. Pieraux — J. R. Benskin
R. J. Gabrielson — B. S. Davis

LINK-BELT CO. (218, 219, 220)

307 N. Michigan Ave., Chicago 1, Ill.

Features power-transmission equipment, including ball and roller bearings, a silent-chain card drive, operating silent-chain and roller-chain drives, a P.I.V. variable-speed drive in plastic housing, a P.I.V. slasher drive, and an Electrofluid drive.

Representative at booth:
William J. Nighbert

H. F. LIVERMORE CORP. (109A)

20 Linden St., Boston, Mass.

Features loom parts, including a new drive-rod arm for the Draper loom; a new rubber-type floor spring; a simplified thread cutter; and a new thread cutter for the W-3 loom.

Representatives at booth:
Ernest W. Fanning
Charlie E. Moore
William T. Jordan
Sherwood O. Dodge
L. George Urquhart

LOUDEN MACHINERY CO. (603)

Fairfield, Iowa

Features monorail overhead cranes and ceiling-cleaning equipment.

Representatives at booth:
Wilbur Mayer
A. M. Rinehart
Curran Easley

EDWARD J. McBRIDE CO., INC. (237)

Adams Ave. & Leiper St., Philadelphia 24, Pa.

Features a new mercury stop motion for warping creels and new section beams and beam heads. A vertical-type magazine creel will also be on exhibit.

Representatives at booth:
Edward J. McBride
Walther F. Kraemer

MACBETH CORP. (145, 146)

Newburgh, N. Y.

Features the new Nickerson-Hunter cotton colorimeter. Cotton-classing lamps, color-matching skylights, pH meters, and a color densitometer will also be shown.

Representatives at booth:
Norman Macbeth
W. B. Reese
E. F. Slaughter
J. F. Slaughter
A. P. Sommers

MANTON GAULIN MFG. CO., INC. (136)

44 Garden St., Everett 49, Mass.

Features the Gaulin textile homogenizer.

Representatives at booth:
D. G. Colony
G. W. Eldridge
W. A. Hewitt
J. J. Dwyer

MARCHANT CALCULATORS, INC. (347, 348)

Oakland, Calif.

Features calculating machines, including models DRX and DR.

Representatives at booth:
Ward J. Koepenick
Gilbert F. Hartwell
Joe S. Fulmer

MARKEM MACHINE CO. (235)

150 Congress St., Keene, N. H.

Features industrial marking machines and box markers, including the new-model 45A tag markers and label printers.

Representatives at booth:
H. D. Milton
C. H. Cheeseman
Harric Clark
E. C. Quimby
J. S. Remmel

THE MARQUETTE METAL PRODUCTS CO. (260)

1145 Galewood Drive, Cleveland 10, Ohio

Features new twister spindles with an external brake. Roller-

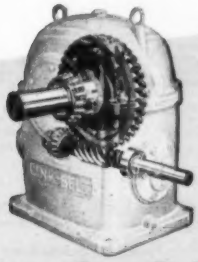
Is your speed reduction problem in this picture?

High-ratio reduction and right-angle takeoff

Restricted Space for mounting

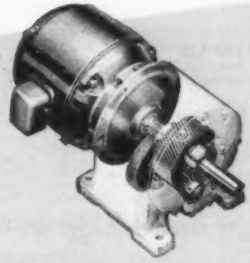
High hp with parallel takeoff

If it is, LINK-BELT has the right reducer for your requirements



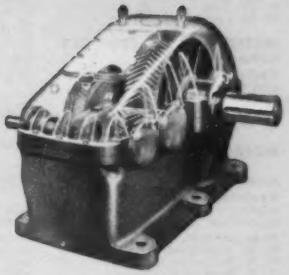
Worm Gear Drive

Reduction ratios: 3.1:1 to 8000:1. Torque: 1400 to 123,000 in. lbs. Output shaft rpm: 0.22 to 564. Drawing shows motorized P.I.V. variable speed and worm gear drives direct-coupled.



Gearmotor

Reduction ratios: 6.2:1 to 292:1. Hp range: 1 to 30. Output shaft rpm: 6 to 280. Drawing at top of page shows gearmotor with roller chain drive.



Herringbone Gear Drive

Reduction ratios: 2.84:1 to 318:1. Hp range: ½ to 1000. Output shaft rpm: 2 to 600. Drawing at top of page shows motor with herringbone gear drive and roller chain drive.

Yes, LINK-BELT builds all 3

HELICAL, Herringbone or Worm gear drive—Link-Belt builds them all. And all are made in the widest range of hp ratings and reduction ratios. Truly a specific drive for every reduction problem.

All of this enables the Link-Belt power transmission engineer to recommend the *one* drive best suited to your requirements. And you can be equally sure that every Link-Belt drive is precision engineered for quiet, economical, long-life service.

Call the Link-Belt office near you for engineering information on any or all of these enclosed gear drives. Send for catalogs.

LINK-BELT

ENCLOSED GEAR DRIVES

LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa), Sydney (Australia). Offices, Factory Branch Stores and Distributors in Principal Cities. 12,801

SEE OUR EXHIBIT—SOUTHERN TEXTILE EXPOSITION—OCTOBER 6-11—SPACES 218, 219 & 220

GUIDE TO EXHIBITORS *(Continued)*

bearing textile spindles will also be shown.

Representatives at booth:
C. E. Miller — C. H. White
W. H. King — J. J. Hallissy
W. P. Russell

MARSH STENCIL MACHINE CO. (325)
Belleville, Illinois

Features the new Marsh electric Dial-Taper, hand-operated and electric machines, and marking supplies.

Representatives at booth:
E. J. Marsh
H. W. Hempel
E. G. Krause
John C. Shelton
J. A. Pierce

MARSHALL & WILLIAMS CORP. (231)
46 Baker St., Providence, R. I.

Features tentering equipment, miscellaneous tenter clips, and a positive-overfeed and selvage guider.

Representatives at booth:
Richmond Viall
John C. Nash
Fred H. Land
Joshua B. Montgomery

MASURY-YOUNG CO. (337, 338)
76 Roland St., Boston, Mass.

Features sealers for sealing wood and cement mill floors; cleaners for floors; floor machines and vacs. Also will show "Primatex", which is used for oily floors.

Representatives at booth:
L. W. Dee — J. A. Watson
R. D. Lane — L. L. Gallemore

MEESE, INC. (314, 315)
Madison, Indiana

Features canvas doff baskets and trucks in regular and plastic-coated duck.

Representatives at booth:
E. W. Meese — W. E. Petway

MERROW MACHINE CO. (230)
Hartford, Conn.

Features overseaming, overedging, and butted-seaming machines.

Representatives at booth:
R. B. Moreland
O. S. Bachelor
J. B. Moreland
Lane C. Burris
Julian Frankel
H. F. Solzenberg

THE MILLER CO. (465 & 466)
99 Center St., Meriden, Conn.

Features a new type of socket construction on the Industrial Slimline lighting fixture and a new 50 footcandler in the junior line of industrial-lighting fixtures.

Representatives at booth:
C. H. Phillips
H. B. Connell
Crawford Maddox
J. W. Fowler
F. A. Stewart
L. A. Kline
A. N. Martinson
F. W. Ogden
G. W. Beals

A. MILNE & CO. (326, 327)
735 Spring St. N. W., Atlanta, Ga.

Features "Spray Painted Kolorkote" tool and special steels, and finished parts now in use in textile machinery.

Representatives at booth:
H. P. Dicks — C. C. Pinkney
F. J. Grant — O. A. Pfouts

MINNEAPOLIS-HONEYWELL REGULATOR CO., INDUSTRIAL DIV. (411, 412)
Wayne & Windrim Aves., Philadelphia 44, Pa.

Features instruments and controls for the textile industry, including the newly designed Moist-O-Graph controller. A low-range radiamatic unit will also be shown.

Representatives at booth:
J. D. MacNamara
J. E. MacConville
A. R. King
A. F. Day
D. B. Daubert
E. H. Benson
W. H. Reynolds
A. L. Rogers
E. Nikstenas
S. R. M. Kennedy
L. F. Lawrence
J. T. Emerson
J. H. Morrison
L. D. Gercken
W. G. Schmick
L. E. Kennedy
R. D. Clarke

MINNESOTA MINING & MFG. CO. (445, 446)
900 Fauquier Ave., St. Paul 6, Minn.

Features textile tapes, pressure-sensitive tapes and dispensers, and "Safety-Walk" non-slip surfacing.

Representatives at booth:
F. M. Andrews
R. C. Crandlemire
J. V. Garrett
F. L. Hayes
G. G. Nevius
W. F. Rhodes
R. D. Scattergood
J. H. Mellon

MITCHELL-BISSELL CO. (227, 228)
Trenton, N. J.

Features porcelain and wire guides for textile machinery.

Representatives at booth:
J. A. Williams
W. H. Birchenall
R. E. L. Holt, Jr.
David R. Sellars
Floyd A. New
James R. Smith
J. B. Adams

MODERN TEXTILES (210)
303 Fifth Ave., New York, N. Y.

Features a textile publication.

MOFFATT BEARINGS CO. (240)
1640 Fairmount Ave., Philadelphia 30, Pa.

Features include ball, roller, thrust, and needle bearings; ball- and roller-bearing types with special textile units.

Representatives at booth:
O. S. Livingston
D. G. Hornbaker
R. L. White
Patrick Matthews
Ben Ivey
R. W. Vogelsberg
R. Milford
S. D. Zenah
W. B. Osborne

MONA INDUSTRIES, INC. (442)
65-75 East 23rd St., Paterson 4, N. J.

Features the Monalit-Duplex yarn-conditioning machine and the Mona textile moisture meter. Also to be shown will be the company's line of textile finishing chemicals.

Representatives at booth:
W. O. Schlimbach
R. H. Sommer
Dr. K. Heyman

MONROE CALCULATING MACHINE CO., INC. (343, 344, 345)
Orange, N. J.

Features adding, calculating, and accounting machines.

Representative at booth:
B. T. Burry

MORTON SALT CO. (512)
P. O. Box 4126, Charlotte, N. C.

Features a new stainless-steel brine dissolver and filter that has a new approach to dissolving and purifying brine.

Representatives at booth:
J. C. Drake — John M. Culp
C. J. Nadherny — E. R. Ravenel
T. E. Driskell — Berge Neill

MOUNT HOPE MACHINERY CO. (146)
15 Fifth St., Taunton, Mass.

Features a new non-lapping high-speed drive on the continuous roll feed, precision guiders with remotely controlled de-nippers, adjustable bow expander, and tenter-rail feeders. A running demonstration of the new high-speed continuous-roll feed, cog-type tension bars, slack-selvage eliminator, open-width tension device, precision guiders, laterally adjustable bracket stands, electric roll-lift let-off, tenter-rail feeders, and adjustable bow expander will also be held.

Representatives at booth:
J. D. Robertson
John B. Hammett
Walter P. Murray
E. F. Slaughter
A. P. Sommer
Mrs. V. H. Slaughter

THE NATIONAL CASH REGISTER CO. (363, 364, 365)
Main & K Sts., Dayton, Ohio

Features accounting and adding machines: a payroll machine, a billing machine, a Class-3000 machine for stores accounting and budgetary accounting, and a Class-31 accounting machine.

Representative at booth:
D. G. Nelson

NATIONAL PLASTICS, INC. (1108)
2326-2330 McCalla Ave., Knoxville, Tenn.

Features new parallel blocks, new cloth-roll bearings, new binder bushings, and new binder-bushing shims. Sheaves, pulleys, idlers, and twisters for spinning and weaving will also be on exhibit.

Representatives at booth:
C. Van Deventer, III
Charles L. Yeomans
Arthur Harris
H. B. Askew
Thomas Emmons
Clarence Morrison

NATIONAL RING TRAVELER CO. (213)
354 Pine St., Pawtucket, R. I.

Features a reception booth.

Representatives at booth:
L. E. Taylor
M. L. Johnston
Frank S. Beacham
Donald C. Creech

NATIONAL STARCH PRODUCTS, INC. (437, 438)
270 Madison Avenue, New York 16, N. Y.

Features a reception booth.

Representatives at booth:
F. Greenwall
J. F. Fitzgerald
F. N. Eastwood
I. L. Dowdee
H. M. Smith
H. C. Olson
D. Pascal
D. R. Lassiter
Tom Griffin

NEW ENGLAND MACHINE WORKS (106A)
574 E. Main St., Waterbury, Conn.

Features high-vacuum cleaning and stripping equipment.

Representative at booth:
H. P. Worth

NEW YORK & NEW JERSEY LUBRICANT CO. (109)
292 Madison Ave., New York 17, N. Y.

Features lubricants for all types of textile machinery.

Representatives at booth:
Joseph H. Bennis
Lewis W. Thomason
J. A. Sorrells, Jr.
F. W. Phillips
F. W. Winecoff

OAKITE PRODUCTS, INC. (355, 356)
19 Rector St., New York 6, N. Y.

Features specialized cleaning and related materials including compounds for cleaning reeds, looms, heddles, and harnesses; for cleaning and de-scaling heat-exchange equipment; for maintenance of air-conditioning and humidifying systems; for cleaning and paint-stripping motors and other equipment before repair, overhaul, and repainting; and for steam-detergent cleaning of large equipment. The Oakite steam-detergent gun will be displayed and its advantages demonstrated.

Representatives at booth:
W. A. Baltzell — H. W. Hatley
O. D. Riddle, Jr. — B. F. Swint
L. T. Perkins — H. W. Kole
R. L. Jones — G. E. Farrar
D. B. Lamb — F. W. Weldon
J. P. Ivie — G. Tatum
G. Williams — R. Tschupp

ODELL MILL SUPPLY CO. (212)
Greensboro, N. C.

ODOM MACHINE MFG. CORP. (115)
26 Webb St., Roswell, Ga.

Features ball-bearing comb boxes for cotton, woolen, and garnetting cards.

Representatives at booth:
M. W. Odom
Marie O. Holloway
Harry A. Haynes

OLNEY PAINT CO. (431)
Spartanburg, S. C.

A distributor.

THE ORR FELT & BLANKET CO. (310, 311)
Piqua, Ohio

Features chemically treated slasher cloth, all wool and part nylon, and clearer cloth.

Representatives at booth:
M. B. Orr
Oliver D. Landis
P. O. Coleman

J. C. PADDOCK CO. (432)
South Church St. Extension, Spartanburg, S. C.

Features textile hand trucks.

Representative at booth:
Sam E. Mabry

PARKS-CRAMER CO. (140)
Fitchburg, Mass.

Features traveling cleaners for textile machines, and Gradumatic humidification.

Representatives at booth:
R. S. Parks
Maynard Ford
J. R. Henderson
W. J. Buck
O. G. Culpepper
W. B. Granger
H. B. Rogers
L. B. Sibley
W. B. Walker

PARKS & WOOLSON MACHINE CO. (705)
Springfield, Vt.

Features a vertical cloth-shearing machine.

Representative at booth:
S. W. Hall

PENICK & FORD LTD., INC. (433, 434)
420 Lexington Ave., New York, N. Y.

Features corn products including starches, dextrines, gums, sugars, and syrups. The new patented starch hydroxy ethyl ethers will be included in the display.

Representatives at booth:
D. P. O'Connor

HERE'S AN EMPLOYEE RELATIONS PROGRAM

WHICH MAKES MONEY FOR YOU—AND YOUR EMPLOYEES

You can prove to employees that management has a sincere interest in their personal welfare—through a program that permits them greater earnings, better opportunities for advancement, greater working comfort and safety, less fatigue. And you can prove its value to your company—in specific dollars-and-cents terms.

"EYES RIGHT FOR THE JOB" MEANS BETTER WORKING EFFICIENCY

The program is the Bausch & Lomb Occupational Vision Service. It is a scientific method, based on findings of a continuing study at the Occupational Research Center of Purdue University, for correlating visual skills to job requirements. Now in its eleventh year, it is successfully operating in hundreds of plants, reducing costs and improving employee morale.

A PROVED METHOD TO HELP YOUR PLANT MAKE MONEY 9 WAYS

The Bausch & Lomb Occupational Vision Service is available to you. It is easy to administer. Employee participation is voluntary . . . *and workers like the program.* Benefits which accrue in plants using O.V.S. (benefits which can accrue in your plant, too) include:

1. Improved quality of production
2. Increased production per worker
3. Reduced waste of materials and work rejects
4. Improved accident record
5. Reduced labor turnover
6. Lowered training cost
7. More effective placement
8. Reduced absenteeism
9. Improved employee relations

MAIL TODAY!

Send for the brochure "Eyes Right for the Job," which tells what the Bausch & Lomb Occupational Vision Service is, how easily it can be administered in your plant, and at what low cost.

Bausch & Lomb Optical Co., 95109 Smith St., Rochester 2, N. Y.

Please send me the brochure "Eyes Right for the Job," and complete details on the Bausch & Lomb Occupational Vision Service.

Name ..... Title .....

Company .....

Street .....

City ..... Zone ..... State .....

For more information, write direct or use Reader Service post card.

GUIDE TO EXHIBITORS *(Continued)*

H. A. Horan
P. G. Wear
G. M. Anderson
Dave Lowry
M. C. Borden
J. S. Brice
J. H. Almand
W. J. Kirby
L. C. Harmon
Guy L. Morrison
T. H. Nelson
Joe Hoagland

PERFECTING SERVICE CO. (410)
332 Atando Ave., Charlotte, N. C.

Features rotary unions; different types of rotating connections for dry cans and slashers; Perflex hose; flexible, braided, and corrugated bronze hose.

Representatives at booth:
A. J. DeMeyer
W. G. Renner
Neal Higgins

PITTSBURGH CORNING CORP. (201)
307 Fourth Ave., Pittsburgh 22, Pa.

Features "Foamglas" for industrial and building insulation and glass blocks.

Representatives at booth:
E. H. Martin, Jr.
C. A. Golladay
A. I. Holmes
H. C. Kelley
J. W. Severence
R. T. Thomas

PLIBRICO CO. (215A)
1800 Kingsbury St., Chicago 14, Ill.

Features refractory products and construction services.

Representatives at booth:
Frank S. Rieder
M. C. Hallard
H. Craig Roper

PNEUMAFIL CORP. (704)
2516 Wilkinson Blvd., Charlotte, N. C.

Features the recently announced Pneumastop for roving frames.

Representatives at booth:
Marion Herndon
Augustas Schuler

POWER TRANSMISSION CO. (331)
High Point, N. C.

Features power-transmission equipment, including variable-speed V-belt drives, fluid drives, and variable-speed fluid drives. The new variable-speed spinning-frame as well as the hydraulic drive, featuring a new principle, will also be shown.

Representatives at booth:
W. S. Cross
R. A. Harmon
Lloyd J. Wolf
W. M. Schweickart

PRECISION GEAR & MACHINE CO., INC. (257, 258)
2001 N. Tryon St., Charlotte, N. C.

Features a new ball-bearing loom, a new ball-bearing comb box for cards, and new ball-bearing units for roving frames. A working model of the Precision waste carousel as well as ball-bearing applications and chain drives will be shown.

Representatives at booth:
V. A. Hanson
J. B. Goodgame
J. G. Shumate
D. A. Chapman
D. H. Caldwell
Albert Charbonneau

PROCTOR & SCHWARTZ, INC. (238)
Seventh St. & Tabor Rd., Philadelphia 20, Pa.

Representatives at booth:
Joseph P. Christ
M. T. Fleming
T. A. Mahon
H. B. Riehl
John R. Schenck

PRODUCT SALES, INC. (352)
21 Vernon St., Whitman, Mass.

Features Climax ball-bearing top rolls and Cleandraft non-lubricating top rolls.

Representatives at booth:
Richard K. Butler
William E. Conlon
R. L. McCauley
C. McMahan
R. Jackson
G. W. Parkinson
Monroe J. Smith

THE PURE OIL CO. (514)
Box 2607, Charlotte, N. C.

Features textile lubricants.

Representatives at booth:
R. G. Whitted
F. G. Sholes
L. C. Hollingsworth
Harry H. Halstead
B. W. Parsons

PURITAN CHEMICAL CO. (423, 424)
916-932 Ashby St. N. W., Atlanta, Ga.

Features cleaning, sanitation, and maintenance materials, including industrial floorseals, degreasing compounds, floor machines, industrial vacuums, disinfectants, hand-cleaning compounds, and floor-maintenance materials.

Representatives at booth:
Ted V. Fisher
Charles E. Braun
Ed P. Collins
H. S. Collinson
L. G. Martin
F. E. Baldwin
H. M. Boniske
W. L. Eubanks
L. N. Sherwood
J. R. Strasser
David Greenberg

RAGAN RING CO. (105)
P. O. Box 174, Station A Atlanta, Ga.

Features spinning and twister rings.

Representatives at booth:
Ralph Ragan
John Foard
Arthur Harris
Mr. Askew
Henry Hersey
Dean Thomas

RAMSET-FASTENERS, INC. (332A)
12117 Berea Road, Cleveland 11, Ohio

Features a complete line of Tru-Set fasteners and a recently-introduced line of Model 122 Jobmaster tools for use with Ramset fasteners.

Representatives at booth:
Jack M. Buchanan
George H. Pennel
Robert F. Routa

REEVES PULLEY CO. (253, 254)
1225 Seventh St., Columbus, Ind.

Features variable-speed drives and controls.

Representatives at booth:
Walter J. Reeves
Frank Higgins
M. O. Bradshaw
M. R. Snyder
J. B. Thomas
C. Arthur Weaver
Robert D. Moore

ROBERT REINER, INC. (138, 139A)
556 Gregory Ave., Weehawken, N. J.

Features the new Raschel machine, the SW-24 warper, and a creel demonstration unit.

Representatives at booth:
August Schoenenberg
George Moebius
Walter Horn
Sal de Lorenzo

RELIANCE ELECTRIC & ENGINEERING CO. (144)
1088 Ivanhoe Rd., Cleveland 10, Ohio

Features textile motors and the Reliance V*S adjustable-speed drives.

Representatives at booth:
E. E. Helm
K. S. Lord
L. M. Dunning
C. D. Herbert
E. G. Orahood
F. W. Leitner
R. B. Reed
C. D. Wright
R. T. Willard
W. H. Compton
C. E. Robinson
K. F. Ertell

THE REMBERT CO. (324)
12 Ottoway Drive, Greenville, S. C.

Features Johnson's floor sealers and finishes and Wyandotte detergents and alkalis.

Representatives at booth:
Claude W. Turner
T. L. Fitzgerald

J. E. RHOADS & SONS (456)
35 N. Sixth St., Philadelphia 6, Pa.

Features Bicut check straps with a new satin finish, textile leathers, and leather belting.

Representatives at booth:
J. T. Hoffmann
Wallace E. Hubbert
A. Sidney Jay
C. R. Mitchell
J. W. Mitchell
L. H. Schwoebel
Richard H. Rhoads

THE RIDGE TOOL CO. (458, 459)
400 Clark St., Elyria, Ohio

Features pipe tools and pipe wrenches, including the new "500" pipe- and bolt-threading machine.

Representatives at booth:
R. C. Chamberlin
R. D. Fye
L. C. Richardson

ROBERTS CO. (142B)
Raleigh Highway, Sanford, N. C.

Features Super-draft spinning precision parts, including cradles, top rolls, gears, revolving clearers, cap bars, saddles, and creels.

Representatives at booth:
Ralph Padgett
Carlton Oliver
Frank Walker
Robert E. Pomeranz

ROSS BUILDERS SUPPLIES, INC. (353)
227 Pendleton St., Greenville, S. C.

Features Northern-maple flooring.

Representatives at booth:
W. D. Connor
W. H. Stephens
H. E. Langston

ROTHERM ENGINEERING CO., INC. (323)
4911 Irving Rd., Chicago 41, Ill.

Features revolving steam joints.

Representatives at booth:
H. S. Kuhn
Harley D. Hohm

B. S. ROY & SON CO. (207)
Box 791, Worcester, Mass.

Features card-grinding machinery; also the new internal ball-bearing head.

Representatives at booth:
L. P. Bell
W. P. Cooper
W. F. Crowder

SACO-LOWELL SHOPS (236)
60 Batterymarch St., Boston 10, Mass.

Features a reception booth.

SARCO CO., INC. (404)
350 Fifth Ave., New York 1, N. Y.

Features steam traps, temperature regulators, and strainers; special temperature controls for dyeing and finishing; and special draining and air-venting equipment for steam-heated dry cans.

Representatives at booth:
A. Milnes
H. F. Collins
R. H. Johnson
R. J. Johnson, Jr.
Mr. Cranford

THE SELIG CO. (225)
336-350 Marietta St. N. W., Atlanta, Ga.

Features floor seals and floor-maintenance compounds, cold-dip-type cleaning compounds for the removal of grease and oil from metal parts, rust preventives, paint strippers, steel-wooling machines, and a floor-scrubbing and polishing machine. Included in the display will be "Kleenapart" and "Kleenakarb" used for the removal of grease and oil from metal parts by the cold-dip methods.

Representatives at booth:
William F. Bode
Charles Pearl
Lee Strasburger
Charles Vickery
Alvin Hamburger
Milton Doctor
Alvin Schwab
Sam Hall

SEYDEL-WOOLLEY & CO. (234)
748 Rice St., N. W., Atlanta, Ga.

Features the Niagara twist setter with a new quick-operating filter as well as samples of textile chemicals for wet-processing warp sizing.

Representatives at booth:
Walter L. Whisnant
W. L. Cutts
Welling LaGrone
V. Robert Mills
John R. Seydel
Dr. Paul V. Seydel
Vasser Woolley, Jr.
David Meriwether
Joe E. Spearman

SHELL OIL CO. (707)
50 W. 50th St., New York, N. Y.

Features lubricants and greases and new V.P.I. crystals.

Representatives at booth:
W. C. Landis T. Ridgaway
Jack Remson R. Fleuriot
F. J. Colerick P. J. Thomas
W. Niedermyer

SIGNODE STEEL STRAPPING CO. (351)
2600 N. Western Ave., Chicago 47, Ill.

Features steel strapping, steel-strapping machines, tools, and accessories.

Representatives at booth:
M. C. Carlson A. S. Stephens
C. E. Talbutt S. W. Brown
O. B. Shelton

SILL INDUSTRIES (349)
51 Madison Ave., New York 10, N. Y.

Features drying, curing, and heat-setting radiant-heating equipment, including glass-fibre Super-Heaters and new "SupeRadiant" Heaters.

Representatives at booth:
Harold N. Bross
Thomas F. Walsh
Karl H. Inderfurth
Ian M. Haldane

THE SIMCO CO. (304)
920 W. Master St., Philadelphia 22, Pa.

Features static eliminators, including One-Point and No-Shock static bars. Operating units will demonstrate the equipment.

Representatives at booth:
Julius Simmons
William Rowedder
Harold Schweriner
Dolph Simons

SINCLAIR REFINING CO. (103)
630 Fifth Ave., New York, N. Y.

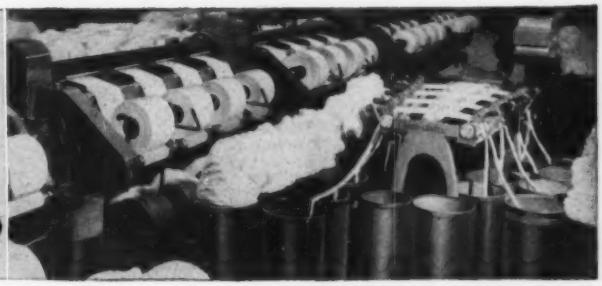
Features lubricants, including a new multi-purpose grease

Here are a few quotes from

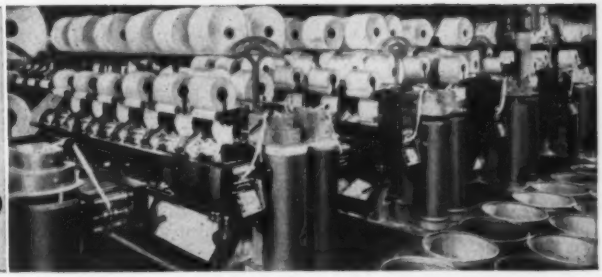
Fitchburg Yarns

the publication of
Fitchburg Spinners Sales Corporation
which represents Fitchburg Yarn Company,
Watatic Spinning Mills, Inc. and
Wachusett Spinning Mills, Inc.
long-time users of Saco-Lowell equipment.

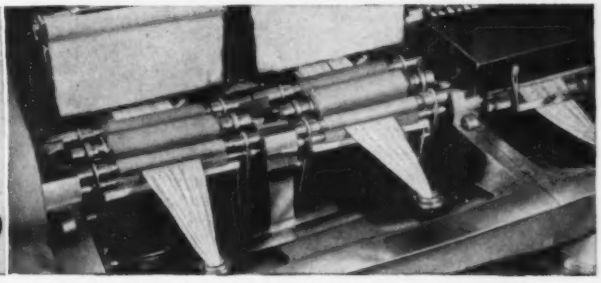
"**ENDS X ENDS X ENDS**... part of the formula for producing a better quality yarn, faster. These new lap winders and drawing frames combine 320 ends into a ribbon lap where previously it had been possible to join only 64. Laboratory tests prove the sliver is evener and better prepared for the next step, the comber."



"**TWO HEADS ARE BETTER THAN ONE**... and these new combers prove it by producing three times as much as the old style. Better than that the yarn is cleaner and the combing much more complete. Variation in the sliver from these combers has been cut by 50%."



"**NEW DRAFTING**... with improved rolls that turn at precisely controlled speeds has reduced variation in this operation. Yarn is drafted evenly by vari-sized rolls, each turning at a carefully set speed. With short fibres removed in the comber the 1,920 ends are now joined in a single even sliver."



These are important results of careful production testing in the manufacture of quality yarns.

On request, a Saco-Lowell engineer will gladly discuss with you the many features of Saco-Lowell Combers and 3-over-4 Drawing Frames.

SACO-LOWELL

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD, MAINE and SANFORD, N. C.

SALES OFFICES CHARLOTTE • GREENVILLE • ATLANTA

For more information, write direct or use Reader Service post card.

GUIDE TO EXHIBITORS *(Continued)*

for low or high temperature and wet or dry applications.

Representatives at booth:
F. W. Schwettmann
G. R. Dyer
J. M. Mathers
J. O. Holt
T. F. Morrison
E. B. Morrison
L. M. Kay
H. G. Lane
C. C. Nix

J. E. SIRRINE CO. (205)
Greenville, S. C.

Features a reception booth.

Representatives at booth:
A. D. Asbury
Allen Bedell
R. R. Adams
George Wrigley
George Morgan
Horace Swannell
C. R. Macdonald
J. W. Cantrell
J. T. Mallard
George Wrigley, Jr.
George Cumbus
Jack Bringhurst
Bill Bozeman
Murray Stokeley
Bill Robinson
Grover Gaskin
Lowrie Burdette
Ansel Cox
Chester Hatch
C. T. Wise
G. P. Patterson
Holmes Frederick
Francis Dean
Oliver Going
Henry McDonald
Wesley Howard

SKF INDUSTRIES, INC. (511)
Front St. & Erie Ave., Philadelphia 32, Pa.

Features ball and roller bearings, pillow blocks—including the new SY pillow block—textile spindles, and tension pulleys.

Representatives at booth:
Frank J. Matte
M. H. Courtenay
R. W. Franklin
J. O. Cushing
R. F. Davis
J. T. Paradise
G. E. Allen
P. W. Dunlap

SLAUGHTER MACHINERY CO. (145, 146)
205 South Church St., Charlotte, N. C.

A manufacturers' representative.

SLIP-NOT BELTING CORP. (358)
Box 3061, Greensboro, N. C.

Features the new reinforced "Nuform" Victory check straps, Type D for Draper looms and Type C for Crompton & Knowles looms.

Representatives at booth:
Otto Cox
Blackie Carter
John Youngblood
Ed Meservey
Gray Spencer
Toy Doane

SMITHCRAFT LIGHTING DIV., A. L. SMITH IRON CO. (212)
Chelsea 50, Mass.

Representatives at booth:
Frank P. Larson, Jr.
G. M. Hogshead
Herbert K. Nock

B. SNOWISS FUR CO. (227, 228)
Hanna & Clinton Sts., Lock Haven, Pa.

Features New Zealand opossum and American muskrat skins and strips for shuttle-tension purposes, as well as lambskins.

Representatives at booth:
Benjamin Snowiss
R. E. L. Holt, Jr.
Floyd A. New
J. B. Adams
James R. Smith
David R. Sellars

SONOCO PRODUCTS CO. (241)
Hartsville, S. C.

Features a complete line of cones, spools, tubes, cots, bobbins, cores, and other paper textile carriers and specialties.

Representatives at booth:
C. H. Campbell
John R. Coxe
W. M. Carpenter
W. R. Peacock
W. K. Lewis
W. A. Biggs
Paul Williams
W. B. Broadbent
G. K. Lewis
John A. Reagan, Jr.

SOUTHEASTERN SAFETY APPLIANCE CO. (346)
1010 Crescent Ave.N.E., Atlanta, Ga.

Features fire extinguishers, breathing equipment, resuscitation equipment, and first-aid supplies and equipment.

Representatives at booth:
George D. Johnson
W. E. Reddingfield
P. H. Ellington

SOUTHERN SIZING CO. (359)
601 Campbell St., East Point, Ga.

Features warp sizing and finishing compounds. New Scott & Williams Hydropulse equipment for continuous-size preparation, including a heat exchanger and high-pressure homogenizer, will be shown.

Representatives at booth:
C. Russell Gill
Jimmie D. Walker
Robert V. May
Grant C. Rickard

SOUTHERN STATES EQUIPMENT CORP. (244)
Hampton, Ga.

Features the Universal card coiler head for any stand—14 or 15-in.; 14 and 15-in. card coiler conversions; 14-in. drawing frame conversion; individual card drives.

Representatives at booth:
C. W. Walter
T. F. Tyrrell
R. D. Carmichael
W. A. Knapp
C. H. Kennington
R. W. Schrimshire
J. C. Walters

A. E. STALEY MFG. CO. (413)
Decatur, Ill.

Features corn starches and dextrines for warp preparation and cloth finishing, including "Sta-Gel."

Representatives at booth:
R. L. Nagle
Ray E. Harroun
W. N. Dulaney
W. T. O'Steen
H. A. Mitchell
Donald A. Barnes
L. A. Dillon
N. N. Harte, Jr.

STANDARD MILL SUPPLY CO. (255, 256)
1064-1080 Main St., Providence 1, R. I.

Features a new cloth inspecting, measuring, and winding machine with surface wind (constant-yardage speed); stainless-steel steam-jacketed size kettle; motor-driven agitator with stainless-steel shaft and propeller blades; portable tape-sewing machine; hand-operated yarn reel; hand-operated 36-in. roving reel; hand-operated yarn-evenness controller; and a new portable hydraulic lift truck for beams and rolls of cloth.

Representatives at booth:
L. F. Ott
J. Kenneth Sumner

STEEL HEDDLE MFG. CO. (137)
2100 W. Allegheny Ave., Philadelphia 32, Pa.

Features loom-harness equipment and accessories, including flat steel heddles, frames, reeds, shuttles, drop wires, and warp preparation equipment, as well as a new, improved harness and new cake holders.

Representatives at booth:
V. C. Hassold
J. J. Kaufmann, Jr.
H. W. Fehr
F. H. Kaufmann
D. L. Batson
S. Zimmerman, Jr.
John Neuffer
Hugh Cash
C. W. Cain
H. P. Goodwin
R. L. Parker
R. Stevens
D. W. G. Macintyre
B. D. Pritchett
J. C. Jacobs
Jess Long
Roy Jones

STEIN, HALL & CO., INC. (463, 464)
1620 West Morehead St., Charlotte, N. C.

Features printing, finishing, and warp-sizing products. New metallic pigment binders, new sizes for synthetic yarns and blends, and new printing thickeners will also be shown.

Representatives at booth:
Edwin Stein
L. F. Costello
A. R. Robbins
E. D. Estes
F. W. Perry
D. E. Truax
W. S. Gilbert
C. H. Garren
J. E. Myrick
Hugh Tobin

STERLING ENGINEERING & MANUFACTURING CO. (215, 215B)
173 Gilligan St., Wilkes-Barre, Pa.

Features textile handling equipment, including quill and bobbin trays; cone and shell boards; skid platforms; pin and cone trucks.

Representative at booth:
George McGee

STEWART-WARNER CORP., ALEMITE DIV. (405)
1826 Diversey Parkway, Chicago 14, Ill.

Features lubrication equipment, including a new model of the Alemite Oil-Mist lubricator, the Accumeter centralized-lubrication systems, and barrel-to-bearing lubrication.

Representatives at booth:
E. Ralph Harris
Jake Esbenshade
Don Martinson

SYLVANIA ELECTRIC PRODUCTS, INC. (505)
1740 Broadway, New York, N. Y.

Features fluorescent fixtures, incandescent lamps, and starters and sockets.

Representatives at booth:
G. D. Rand
C. C. Beyer
J. A. Keller
A. J. Rugo
H. R. McClellan

W. O. & M. W. TALCOTT, INC. (406)
91 Sabin St., Providence, R. I.

Features a complete line of belt fasteners for all types of leather, rubber, and woven transmission and conveyor belting. New special patch fasteners for torn and damaged belting will be shown.

Representatives at booth:
M. W. Talcott
G. W. Little

CHARLES S. TANNER CO. (350)
250 South Water St., Providence, R. I.

Features a demonstration of the Versenes in action as well as many sizing and finishing compounds, including the softening agent, "Lubritone." A new gold and silver printing binder will also be on display.

Representatives at booth:
C. Sumner Tanner
Frank Kottek
Dr. John Singer
William Cooney
Howard Gerlach, Jr.
Karl Inderfurth

TAYLOR INSTRUMENT COMPANIES (427, 428, 429)
95 Ames St., Rochester 1, N. Y.

Features instruments for indicating, recording, and controlling temperature, pressure, flow, liquid level, humidity, and specific gravity.

Representatives at booth:
H. G. Olson
A. J. Fleig
L. Van Huben
H. M. Messenger
H. M. Barker
Jack Barker
W. C. Gray

G. H. TENNANT CO. (143)
2530 N. Second St., Minneapolis 11, Minn.

Features floor-maintenance techniques, materials, and equipment. New electric sweepers, hardeners, and floor-treating materials will be shown.

Representatives at booth:
Robert Guthrie
Frank D. Lilly
Louis Shores
Raymond B. Volkmann
James H. Alger
Elmer K. Hardy
James Newton

THE TEXAS CO. (425, 426)
135 E. 42nd St., New York, N. Y.

Features lubricants and a petroleum conditioner for textile fibers.

Representatives at booth:
J. H. Moran
J. M. Hackney
D. C. Rand
L. S. Leonard
W. P. Warner
L. C. Mitchum
C. W. Meadors
F. M. Edwards
J. M. Malone
F. G. Mitchell
C. T. Hardy
G. B. Mamlin
J. B. Hatfield

TEXIZE CHEMICALS, INC. (430)
P. O. Box 305, Greenville, S. C.

Features various types of sizing materials and cleaners used for warp size.

Representatives at booth:
W. J. Greer
W. N. Kline, Jr.
C. M. Chalmers
J. B. Garrett
C. A. Barrett

TEXTILE AGE (122)
22 W. Putnam Ave., Greenwich, Conn.

Features a textile publication.

TEXTILE BULLETIN (204)
Charlotte, N. C.

Features a textile publication.

TEXTILE INDUSTRIES (408)
806 Peachtree St. N. E., Atlanta 5, Ga.

Features a textile publication.

THE TEXTILE SHOPS (113)
Spartanburg, S. C.

Features a sample or narrow-fabrics dryer. Also stainless-steel size kettles, dry cans,

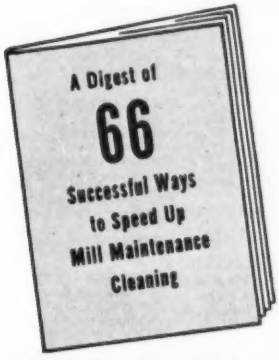
Visit Oakite Booths 355 & 356

for information on low-cost

MILL and EQUIPMENT MAINTENANCE CLEANING

A friendly welcome awaits you at Booths 355 and 356, Southern Textile Exposition. Here you will meet a thoroughly experienced group of Oakite Technical Service Representatives. You are invited to meet these men skilled in the chemistry of cleaning, and discuss with them any of your maintenance or equipment cleaning problems that may need solving. Here, too, you may see and handle the Oakite Solution-Lifting Steam Gun . . . that amazing mechanical cleaning unit that eliminates manual scraping and scouring . . . cuts cleaning time in half.

On your visit get first hand facts on the many specialized Oakite methods and materials bound to save you money on such jobs as:



- Controlling Slime in Humidifying Systems
- Renovating Heavy Machinery
- Salvaging Rusty Reeds
- Descaling Water-Circulating Equipment
- Cleaning Mixing Kettles
- Reconditioning Cork Cots
- Cleaning Aluminum Hosiery Forms
- Descaling Evaporative Condensers
- Cleaning Heat-Exchange Units
- Floor Cleaning
- Controlling Rust
- Cleaning Tentering Chains
- Stripping Paint
- Cleaning Dye Vats
- Removing Sizing from Plastic Spools
- Cleaning Filters
- Reconditioning Electric Motors
- Cleaning Unit Heaters "in-place"

IF YOU CANNOT ATTEND SHOW...send for the Oakite "66" Digest which describes those 18 jobs mentioned above plus 48 other machinery and equipment maintenance tasks frequently performed in textile mills. Oakite Products, Inc., 42 Rector St., New York 6, N. Y.

SPECIALIZED INDUSTRIAL CLEANING

OAKITE

TRADE MARK REG. U. S. PAT. OFF.

MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. & Canada

GUIDE TO EXHIBITORS *(Concluded)*

slasher cylinders, and special machines.

Representatives at booth:
J. E. Spivey
Karl Selden, Jr.
T. T. Jenkins
M. Schrader
C. D. Schrader
J. R. Munger
Lester Gregg

TEXTILE WORLD (222, 223)
330 W. 42nd St., New York 36, N. Y.
201 E. Coffee St., Greenville, S. C.

Features a textile publication.

Representatives at booth:
E. D. Fowle
P. M. Thomas
W. Buxman
James Kennedy
Richard Pressley
Thomas B. Winston
Richard C. Scott
George M. Molsson, Jr.
William B. Dall
J. C. White, Jr.
Arch W. Fisher
H. C. Harvey
Ralph Chisholm
William G. Ashmore
John G. Sabella
M. C. MacKenzie

H. J. THEILER CORP (108A)
22 Ashmont Ave., Whitinsville, Mass.

Features include the new "Tel" Differential Indicator for use on slashers, sizing, Sanforized machines, etc. Also the Robot automatic reed- and heddle-cleaning machine; the Staubli paper-design dobby, card-punching machine, and shuttle-truing machine; the Schweiter Vario-coner winder, type KM; all-metal harness frames; heddles and drop wires with a rectangular eye.

Representatives at booth:
H. J. Theiler
Hans Radertscher
Thomas Henderson
M. K. Thackston
Russell Redding

TIDE WATER ASSOCIATED OIL CO. (121B)
17 Battery Pl., New York 4, N. Y.

Features "Tycol" industrial oils and lubricants for textile-mill lubrication.

Representatives at booth:
H. G. Mullen
K. M. Slocum
L. A. Watts, Jr.
W. R. Harper
L. G. Compton

TOLEDO SCALE CO. (444)
Telegraph Rd., Toledo, Ohio

Features scales, including a new automatic cotton lap scale.

TON-TEX CORP. (227, 228)
16 West 61st Street,
New York 23, N. Y.

Features new endless-cord special spinner belts; lapless-end-less spinner and coner belting; transmission roll belting; loom and harness strapping; lickerin belts; "Ve-E-zy" segmatic V belting; and vulcanizing plates and tools.

Representatives at booth:
J. S. Meyers
R. E. L. Holt, Jr.
David R. Sellars
J. C. Smith
J. B. Adams
S. P. Dixon
Floyd A. New

TOWER IRON WORKS (502)
50 Borden St., Providence, R. I.

Features slasher equipment.

Representatives at booth:
Ira L. Griffin
Waldo W. Smith
Lewis A. Prescott

TRUMETER CO. (145, 146)
1265 Broadway, New York, N. Y.

Features cloth-measuring devices.

Representatives at booth:
A. P. Sommer
J. F. Slaughter
E. F. Slaughter

TWIN-T LABORATORIES (305)
309 River St., Greenville, S. C.

Features a machinery cleaner, a reed and heddle cleaner, a general sanitizing cleaner, and a spot remover.

Representatives at booth:
R. K. Taylor
A. R. Meadors, Jr.
R. L. Goldsmith
R. S. Hill
J. H. Reams

UP-RIGHT SCAFFOLDS (506)
1013 Pardee St., Berkeley 10, Calif.

Features aluminum-rolling scaffolds for construction, weave room, and general mill maintenance.

Representatives at booth:
William H. Howland
Theodore S. Ockels

U. S. BOBBIN & SHUTTLE CO. (357)
135 Bradford St., Lawrence, Mass.

Features bobbins, shuttles, spools, new warper beam heads, new wooden tubes, cones, rolls, and new picker sticks.

Representatives at booth:
Lewis C. Briggs, III
Carroll A. Campbell
Frank Aiken
Phil C. Gossett
Dillard C. Ragan
Arthur D. Roper
Ronald E. Kinney, Jr.
Julian T. Pool
James E. Oliver

U. S. RING TRAVELER CO. (457)
159 Aborn St., Providence, R. I.

Features ring travelers.

Representatives at booth:
William H. Rose
Harold O. Fisher
Oliver B. Land

UNITED STATES RUBBER CO. (702)
1230 Ave. of the Americas,
New York 20, N. Y.

Features a line of textile-mill specialties, including hose, V-belts, and flat belts.

Representatives at booth:
H. E. Dadson
C. F. Cline, Jr.
H. P. Bond
W. J. Dawson
J. E. Messick
N. E. Marshburn
M. H. Jones
C. R. Blitz

U. S. TEXTILE MACHINE CO. (403)
411 Gilligan St., Scranton 8, Pa.

Features a reception booth.

Representatives at booth:
John F. Kingsley
A. W. Thomas, Sr.
P. J. Thomas
A. W. Thomas, Jr.

UNIVERSAL WINDING CO. (203)
P. O. Box 1605, Providence 1, R. I.

Features a reception booth.

Representatives at booth:
Frank P. Barrie
Frederick J. Barrows
Harris H. Bucklin, Jr.
Dudley M. Dunlop
Jesse W. Stribling

USTER CORP. (704)
2516 Wilkinson Blvd., Charlotte, N. C.

Features the Uster yarn strength tester and other testing equipment.

Representatives at booth:
James W. Stuart
George E. Archer

VEEDER-ROOT, INC. (107)
Sargeant St., Hartford 2, Conn.

Features pick and hank counters, loom cutmeters, and counters for quillers, winders, slashers, frames, finishing equipment, and the cloth room.

Representatives at booth:
G. H. Anthony
J. H. Chaplin
H. L. Spaunburg
A. E. Kallinich
G. L. Logan
T. Nelson
F. J. Swords
R. C. Conant
H. E. Mansfield
H. Huff

VICTOR RING TRAVELER CO. (243)
20 Mathewson St., Providence, R. I.

Features a reception booth.

Representatives at booth:
E. R. Jerome
Walter L. Hudson
F. P. Bodenheimer
W. T. Horton
C. W. Wilbanks
C. H. Green

WALKER MFG. CO. (212)
Atlantic & Ruth St.,
Philadelphia 34, Pa.

Features flat heddles, harness frame, and loom reeds.

WATSON-WILLIAMS MFG. CO. (128)
Millbury, Mass.

Features a complete line of shuttles, shuttle eyes, and shuttle parts.

Representatives at booth:
Wilbur L. Watson
Hubert J. Watson
Harold E. Goff
Raymond A. Norman
John Wyatt
Arthur J. Bahan
S. P. V. Desmond
Hugh Smith
Marion Woods
R. V. McPhail
Clifton E. Watson
E. E. Ball
J. N. Dodgen

WATSON & DESMOND (128)
301½ West Fourth St.,
Charlotte, N. C.

A manufacturers' representative.

T. M. WELBORN CO. (328)
P. O. Box 3175, Greenville, S. C.

Features machine and tool products.

Representatives at booth:
Tom M. Welborn
E. G. Deadwyler
C. A. Sanders

WEST DISINFECTING CO. (329, 330)
1700 Altamont Ave., Richmond, Va.

Features floor cleaners, sealers, antiseptic dust-control disinfectants, deodorants, insecticides, paper towels, new antiseptic protective creams, a new non-ionic rust remover, and rust preventives.

Representatives at booth:
Harvey W. Anderson
Horace A. Leche, Jr.

WESTINGHOUSE ELECTRIC CORP. (414, 415, 416)
401 Liberty Ave., Pittsburgh 30, Pa.

Features a new packaged multi-motor slasher drive with a magnetic amplifier control for winding tension, a cutaway lint-free motor, and a new water-cooled motor for the new Saco-Lowell spinning frame. An animated loom motor and a lint-tight loom motor-starter installation, a rayon twister vertical motor, a d.-c. gear motor, and a low-voltage, metal-enclosed unit featuring a new draw-out-type circuit breaker. Displays showing an animated "front-removable" Life-Linestarter, controls, and a panel showing the use of Micarta plastics will be included.

Representatives at booth:
A. W. Rose
W. W. Ballew
Jerry Reeves, Jr.
C. P. Walker

WESTINGHOUSE LAMP DIV. (417)
Chamblee, Georgia

Features an industrial-lamp display.

Representatives at booth:
W. R. McKinney
J. W. Johnston
Paul H. Noe
R. A. Corbey

WESTON ELECTRICAL INSTRUMENT CORP. (508)
614 Frelinghuysen Ave.,
Newark 5, N. J.

Features electrical indicating instruments; recorders; controllers; bimetallic, mercury-in-glass, and electrical thermometers; tachometers; and percent-stretch indicators and recorders.

Representatives at booth:
J. W. Devine
L. Van Blerkom
Grier Wallace
Russell Ranson

WEST POINT FOUNDRY & MACHINE CO. (516)
West Point, Ga.

Features a new Air-Dri slasher, a new multi-cylinder slasher, a new-model 51 Callaway slasher, and a new corduroy-cutting machine with a new drive.

Representatives at booth:
T. J. Lane — R. F. Guill
G. L. Ball — S. S. Rice
R. L. Mundhenk

WHITIN MACHINE WORKS (232, 233)
Main St., Whitinsville, Mass.

Features repair parts and supplies.

Representatives at booth:
R. G. McKaig
R. W. Rawlinson
R. C. Cunningham
Frederick Odell
C. F. McRoberts
R. Curtis Greib
Z. C. Childers
C. M. Banks
J. R. Federline

WHITINSVILLE SPINNING RING CO. (252)
Whitinsville, Mass.

Features a complete line of spinning and twister rings, holders, and accessories.

Representatives at booth:
W. P. Dutemple
G. T. Brown — W. K. Shirley

THE WILBUR & WILLIAMS CO. (360)
Greenleaf & Leon Sts.,
Boston 15, Mass.

Features specialized paint coatings, including chemical and moisture-resistant coatings, odorless coatings, rubber-base coatings, and silicated coatings.

Representative at booth:
Ralph Van Ness

WILKIN & MATTHEWS (336)
2511 Wilkinson Blvd.,
Charlotte, N. C.

Features casters, steel shelving, and bobbins. New replaceable-rubber-tired casters and semi-steel casters will be included in the exhibit.

Representatives at booth:
Hugh Wilkin
John Matthews
Chris Timberlake

WRENN BROTHERS (472, 429)
4701 Pineville Road,
Charlotte, N. C.

Features fork lift trucks, conveyors, casters, and hand trucks.

Representatives at booth:
Charles G. Mayer
J. R. Horswell
J. W. Hubbard
J. Preston
Paul E. Wrenn

Thackston & Redding, Inc.

Spartanburg, South Carolina

SOUTHERN AGENTS

H. J. Theiler CORPORATION
WHITINSVILLE • MASS.

Invite you to visit us at

BOOTH 108A

Southern Textile Exposition

1 STAUBLI DOBBIES, STAUBLI CARD PUNCHING MACHINES, STAUBLI SHUTTLE TRUING MACHINES

MFD. BY

STAUBLI BROS. & CO.
HORGEN-ZURICH

2 "ROBOT" REED & HEDDLE CLEANING MACHINE

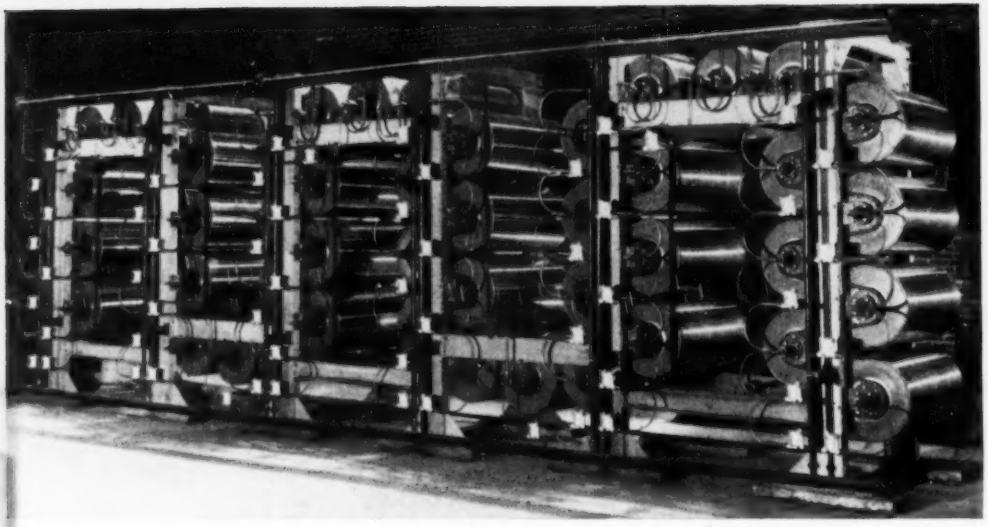
MFD. BY

Sam. Vollenweider LTD.

3 SCHWEITER KM CONE WINDER

MFD. BY

Schweiter



- Stainless Steel Dry Cans
- Slasher Cylinders
- Size Kettles
- Dye Tanks
- Rolls—All Types and Sizes
- Pre-Dryers
- Lint and Dust Collecting Systems For Spoolers and Warpers
- Slasher Hoods (Stainless or Copper)
- Condenser-Card and Picker Screens
- Spinning Cylinders
- Special Machines Custom Built

Visit Our Exhibit At

THE SOUTHERN TEXTILE EXPOSITION

SECTION NO. 113

FIRST FLOOR

The Textile Shops

SPARTANBURG, SOUTH CAROLINA

●

Designers & Manufacturers of Textile Metal Products

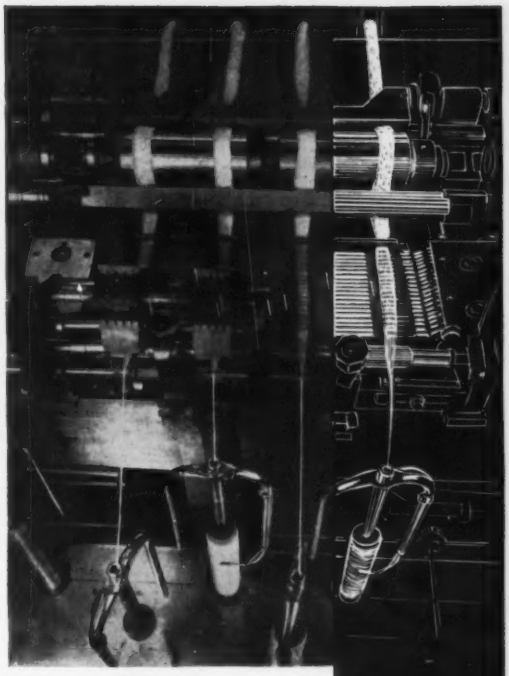
A.S.M.E. Code Construction

THE new SACM Cone Gill Reducer extends the even end advantages of the Abbreviated System to the reducing operation, when producing a twisted slubbing from an untwisted slubbing.

The drafting field consists of a bed of 30 fallers each with four pinned set-overs. Each head of fallers feeds four spindles and has an independent screw drive. The faller pin control exercises the necessary restraint on the individual fibers to insure a steady flow of material to the front roller with regular distribution of the short fibers throughout the mass. There is an automatic stop-motion for each head. The maximum number of heads that can be accommodated is twenty, feeding eighty spindles.

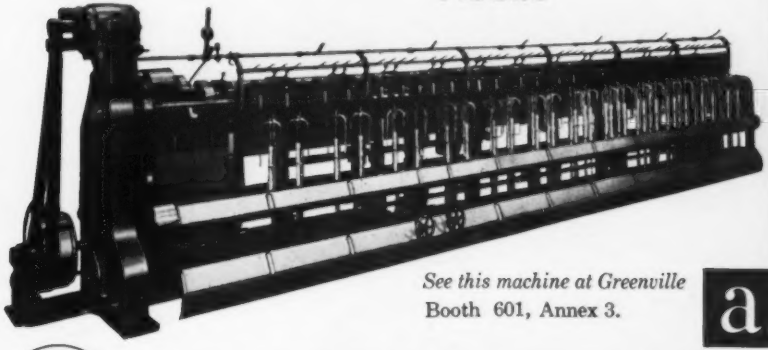
Drafts of 5 to 15 and doublings of from 1 to 3 may be obtained, with spindle speeds of up to 900 r.p.m. Bobbin size is $10\frac{1}{4}''$ x $4\frac{3}{4}''$. Maximum front roller speed is 118" per minute.

This machine is available with vertical creels for bobbins or with a can creel. All gears are precision, machine-cut. The spindle-bobbin drive is practically noiseless and runs in self-lubricated reservoir foot-steps. The top rolls and cone shaft run on ball bearings. The back rolls and back sliver guides are adjustable. Full data is available upon your request.



NEW Cone Gill Reducer FOR WORSTED AND SYNTHETIC FIBERS

SACM



U. S. A. WRITE ATKINSON, HASERICK & CO.

See this machine at Greenville
Booth 601, Annex 3.

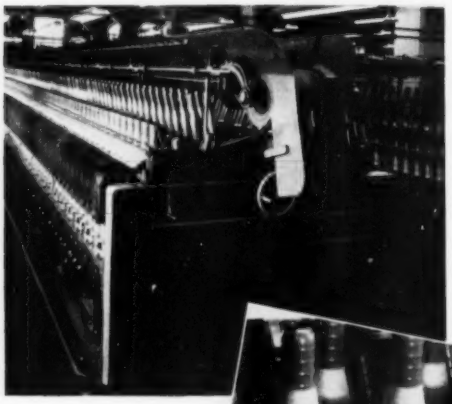
a. h.

BOSTON 6
CHARLOTTE 2

SOCIETE ALSACIENNE DE CONSTRUCTIONS MECANIQUES
MULHOUSE, FRANCE

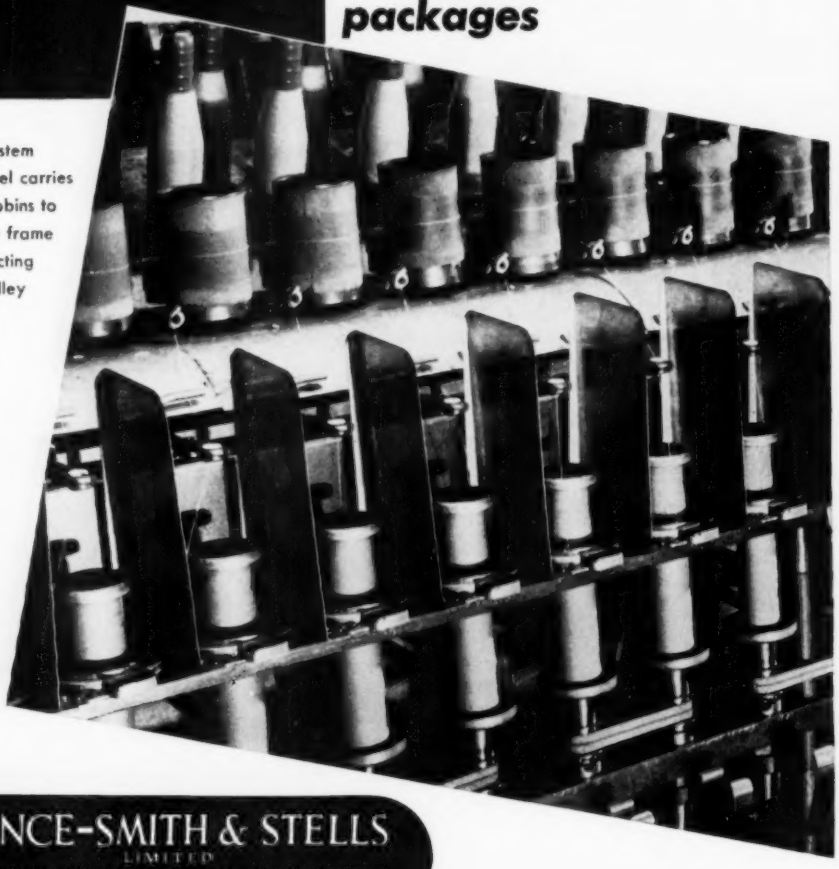
For more information, write direct or use Reader Service post card.

Twist Large Packages of



Prince-Smith & Stells improves 2-fold ring twister for fine count worsted yarns on large packages

A conveyor system above the creel carries the empty bobbins to the end of the frame without obstructing the working alley with trucks.



PRINCE-SMITH & STELLS
LIMITED
INCORPORATING TAYLOR WORDSWORTH & CO. LTD.
KEIGHLEY ENGLAND

U.S.A. Agents for French System Machinery: Blake Electric Mfg. Co., 43 Commercial Wharf, Boston 10, Mass.

For more information, write direct or use Reader Service post card.

Fine Counts

IF YOU do two-fold twisting of worsteds, you will find this a very practical machine. It will give you all the time-saving advantages of large packages, together with full twisting control for even fine counts. Increasing the size of the dolly rolls to a 3" diameter gives a more accurate tension control and consequently a better yarn. New type spindles eliminates vibration and increases speeds. They require lubrication at only 2,500 hour intervals thus reducing the hazard of oil in the yarn area. Ball bearing tension pulley assemblies save power and tape wear. An adjustable change speed device permits quick alteration of spindle speeds. Combination creel allows you to run from either bobbins or large cones interchangeably. A simplified, rail lifter motion (each side separate) affords accurate, easy alterations for fine or coarse counts. The entire machine is designed for years and years of low maintenance service. For further information please contact Atkinson, Haserick & Co. at Booth 601, Annex 3.

ABSORBS VIBRATION

The new Hoffman roller bearing spindle insert has a spring and sleeve which absorbs vibration between the rail and the bolster. The free running spindle uses less power and reduces tape slippage. The knee brake mechanism lifts the complete spindle unit from its normal position causing the top flange of the whorle to make contact with a stationary brake shoe.

WE ARE INDEBTED TO THE CLEVELAND WORSTED MILLS CO. FOR THE PHOTOS

NOTICE

TO OWNERS OF

ATKINSON, HASERICK & CO.

MACHINERY

You can secure revised recommendations for aprons, bobbins, card clothing, fallers, rings, screws, etc. for all machinery you have purchased from Atkinson, Haserick & Co. May we suggest that Purchasing Agents review specifications of their mill supplies with one of our engineers. These engineers are continually working with your type of machinery. Their recommendations for even slight changes in parts or usage can often produce gratifying results.

Atkinson, Haserick & Co.

Textile Machinery Agents and Engineers Since 1823

211 CONGRESS STREET
BOSTON 6, MASS.
1639 W. MOREHEAD STREET
CHARLOTTE 2, N. C.

a. h.

For more information, write direct or use Reader Service post card.

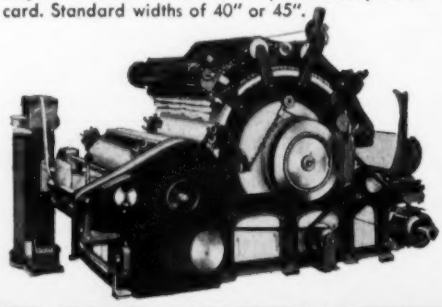
basic

You're in business to make money and *the efficiency of your machinery has a lot to do with profits.* Platt machines are developed in co-operation with the world famous T.M.M. Ltd. spinning research laboratory, built to rigid specifications and **proven in mills throughout the world.** This is the type of machinery that is basic to the successful operation of a cotton mill: highly productive, economical and of long life. Atkinson, Haserick would be glad to show you the proof. See you at Booth 601, Annex 3, Greenville.

basic TO CARDING

EVEN, NEPLESS WEBS . . . . . .

With Platt's Revolving Flat Card, accurate settings are easy to obtain and hold, insuring the production of an even, nepless web for both light and heavy carding. There is an exceptionally strong cross rail construction and rigid foundation. Vibration is virtually eliminated and air currents minimized. Cut staple fibers can be worked very successfully on this card. Standard widths of 40" or 45".



PLATT BROS.
(SALES) LTD.
OLDHAM, ENGLAND

Staff of 150 work on fiber control problems for all sections of the spinning industry.

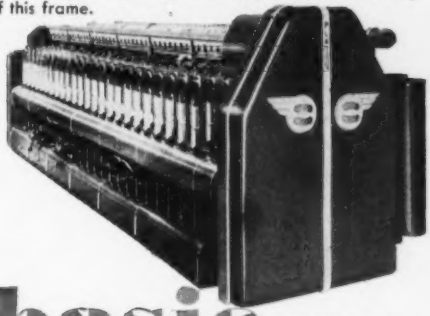
Laboratory provides continual information on all processes from bale to plied yarn.

For more information, write direct or use Reader Service post card.

basic TO ROVING

FIBER AND TWIST CONTROL...

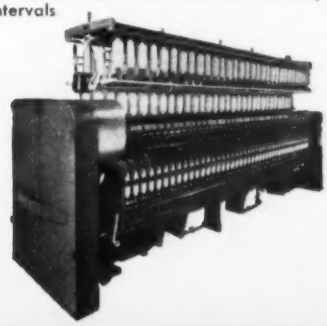
The new Platt M.S.2 High Draft Roving Frame operates with great efficiency at high speeds. Three drafting zones give unprecedented fiber control through a wide range. A stronger roving is formed by inserting more of the total twist close to the nip of the front roll. The firm roving sheds little fly. You will be impressed by the quiet operation, speed and efficiency of this frame.



basic TO SPINNING

LARGE PACKAGES, HIGH SPEED...

The Platt M1 Ring Spinning Frame is a practical, proven frame for large packages. It has a choice of high drafting arrangements and a new spring arm roller weighting that adjusts to a wide range of staple lengths without altering the nip pressure. The simplified headstock has central lubrication, few gears and flexibility of turns per inch. Roller bearing spindle needs routine maintenance at only 2,500 hour intervals



Actual conditions in opening, picking, carding and spinning rooms are reproduced in the laboratory.

a management responsibility

Don't you owe it to your mill to investigate ALL the new processes, new fibers, new machinery. A visit to our Greenville Booth 601, Annex 3, would be time well spent. We are engineers and agents for some of the finest machinery developed in England.

Atkinson, Haserick & Co.

Textile Machinery Agents and Engineers Since 1823

a.h.

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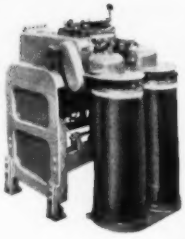
1

2



Second Operation — HOLDSWORTH SINGLE HEAD, TWIN DELIVERY GILL REDUCER

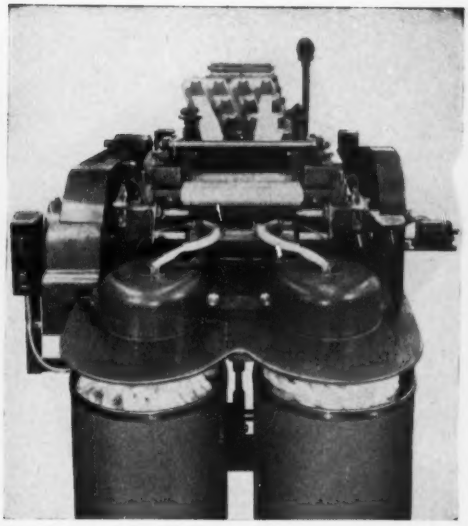
HOLDSWORTH

Announces a New

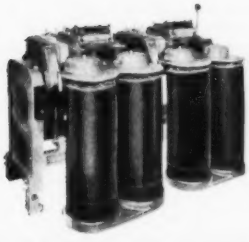
BRADFORD TYPE INTERSECTING GILL BOX *FOR THE FIRST DRAWING OPERATION* ON BLENDED SYNTHETICS AND WORSTED TOP

3

Third Operation — HOLDSWORTH SINGLE HEAD, TWIN DELIVERY GILL REDUCER



For the first operation after combing (or after a converter), the new Holdsworth Bradford Type Gill Box utilizes a heavier entrance sliver weight. It produces a well blended, open end, ideally suited to the "Abbreviated System" which follows. The usual Bradford Box apron has been removed and a three roll delivery arrangement with closer nip gives excellent fiber control and evenness of ends. The patented Holdsworth Fallers are interchangeable for pinnings from 11 to 15 per inch. Each head of fallers and screws delivers two ends into 15" diameter cans of 20 lb. coils. The machine is completely motorized and equipped with latest style stop motions. Holdsworth, America's most experienced maker of Gilling Machinery, would be glad to tackle your combing and drawing problems without any obligation to yourself. Write Atkinson, Haserick & Co. about this service.



4

Fourth Operation -
HOLDSWORTH
TWO HEAD,
QUAD DELIVERY
GILL REDUCER

GREENVILLE DIRECTORY

	BOOTH
COTTON	601
WORSTED . . .	601
SYNTHETICS . .	601
BLENDS	601

ANNEX 3

THIS IS AN EXCELLENT OPPORTUNITY TO DISCUSS CONVERSION & MODERNIZATION WITH ENGINEERS FAMILIAR WITH ALL PHASES OF YARN PRODUCTION.

At booth 601 you will find a very interesting exhibit of new machinery designed for the Abbreviated System. We believe you will find it stimulating and worthy of your close inspection.

Atkinson, Haserick & Co.

Textile Machinery Agents and Engineers Since 1823

a.h.

211 CONGRESS STREET
BOSTON 6, MASS.
1639 W. MOREHEAD STREET
CHARLOTTE 2, N. C.

For more information, write direct or use Reader Service post card.

Here's something to remember when you buy NEW FRAMES

Call your Armstrong man—he can help you

EXPERIENCED AND DEPENDABLE, your Armstrong man is always ready to help you. When you have a tough roll covering problem, call your Armstrong man . . . any time.

When you order new frames, it's natural to assume that roll covers that are running well on your present equipment will work just as well on your new frames.

That may not be true. Frequently, your new frames will require a different roll covering to give you the efficient performance for which they were designed.

That's why it's a good idea to call in your Armstrong man when you're buying new frames. Chances are that he already has had experience with the equipment you're installing. If so, he'll know the best type of roll coverings for your new frames and the yarn you're running.

If not, he can find out. In the case of a brand-new frame, for example, Armstrong normally will work with the machinery manufacturer to develop a suitable roll covering. So even in such an extreme case, your Armstrong man will have access to the information you need.

Your Armstrong man, of course, is ready to help you on many other roll covering problems, ranging from

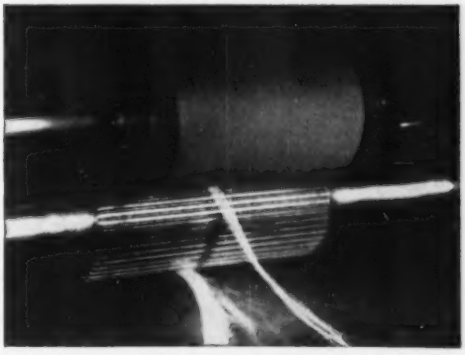
ARMSTRONG'S

get the most out of your new equipment

routine maintenance to picking the right cot for spinning a new fiber. In emergencies, a telephone call usually will bring him to your mill within 24 hours.

His complete line of Armstrong's Accotex® Roll Coverings fills every possible need. All Accotex Cots contain the exclusive "electrolyte" that gives it built-in lap resistance. Long-lasting Accotex Cots are available in straight synthetic rubber or combinations of cork and rubber. Varying degrees of firmness assure you of the right cushion for your particular work.

When it comes to roll coverings, there's a combination you can always count on—your Armstrong man and his Accotex Cots. Be sure to let them both help you whether your equipment is old or new. If an Armstrong man doesn't call on you, please write or call Armstrong Cork Company, Textile Products Department, 8309 Arch Street, Lancaster, Pennsylvania. All Accotex products are available for export.



THIS LONG-WEARING ARMSTRONG COT RESISTS LAPPING
20 seconds after the roving brake—and there's still no lapping. The reason is in the Accotex Cot. It contains certain electrolytes that eliminate the basic cause of lapping—attraction between electric charges in the moisture layers on the cot and fiber. With many covers, lapping is almost instantaneous, but Accotex gives the yarn enough time to get down to the scavenger roll.

ACCOTEX COTS

LESTERSHIRE PRESENTS.....

1. Beveled aluminum bushing which gives rigid support to the head and eliminates screws.
2. Phenolite (laminated bakelite) or hard vulcanized fibre head.
3. Barrel of molded bakelite, separated to show central support.
4. Aluminum center tube, to which end bushing is locked.
5. Same as No. 2 above.
6. Note nylon bushing in drive slot which serves to prevent wear from metal-to-metal contact.

The new Lestershire "NB" Bobbin, made from aluminum, Phenolite (laminated bakelite) or hard vulcanized fibre, withstands tremendous crushing pressure on the barrel and outward pressure on the heads.

No screws are used to fasten these bobbins together. Beveled aluminum bushings, threaded to the metal central tube, and locked in place, hold the heads rigidly against yarn pressure. Elimination of the screws helps assure dynamic balance. The barrel, of molded bakelite, fits snugly at the center against the inner metal tube and around the end bushings—thus assuring great strength for the entire barrel and concentricity for the unit.

All parts are made to close tolerances and are interchangeable when worn parts are to be replaced, or when there is some change in bobbin use.

These are just a few of the revolutionary features of "NB" bobbins that will save you money and assure efficient, trouble-free operation.

At the Southern Textile Exposition see this revolutionary new bobbin—on the stage at Textile Hall, with McLeod Companies.

THE NEW "NB" BOBBIN*

FOR USE WITH SYNTHETICS

Designed by Lestershire in cooperation with leading mills for these specific purposes:

- **To give balance without "balancing".**
- **To take packages of all dimensions.**
- **To operate at higher spindle speeds.**
- **To lessen spindle and bolster wear.**
- **To reduce power consumption.**
- **To lower bobbin investment.**
- **To assure strength to withstand crushing pressures.**
- **To eliminate vibration.**

Write for sample bobbin and full facts about Lestershire "NB" Bobbins.

*Pat. No. 2048994—Further patents applied for.

LESTERSHIRE SPOOL & MFG. CO.

Specialists in the production of bobbins to meet individual requirements

140 Baldwin Street — Johnson City, N. Y.

DIVISION OF NATIONAL VULCANIZED FIBRE CO.

Branch Offices and Technical Service:

Clifford E. Lathrop—7 Whitney Avenue, New Haven 10, Conn.
W. H. Hobbs—Room 833, 30 Church St., New York 7, N. Y.
Odell Mill Supply Co.—Greensboro, N. C.
Greenville Textile Supply Co.—Greenville, S. C.

Always Uniform

Whether it's in shooting or slashing . . . reliability depends as much on what you use as how you use it.

The Keever aim for many years has been to keep Victor Mill Starch at unvarying top quality.

Better penetration, stronger warps, less shedding in high-production mills are often due to Victor Mill, "The Weaver's Friend" . . . and the conscientious help of the Keever man who serves you.

TEXTILE SALES DIVISION
1200 WOODSIDE BUILDING
GREENVILLE, SOUTH CAROLINA
Charles C. Switzer, Manager

THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO
Corn, wheat and other grain products for industry since 1898

SEALATEX

Huge Chatham Mill, Elkin, N. C. contains 24 acres of floor space.

seals floors in world's largest blanket mill

"We have used a considerable amount of Sealatex in our plant. It has done a fine job of adding life and service to our maple floors, while reducing cleaning time and maintenance.

"We also appreciate the excellent service given by your field men."

J. L. Benson

Vice President
CHATHAM MANUFACTURING COMPANY
Elkin, North Carolina

MASURY-YOUNG CO.
76 ROLAND STREET Dept. 48 BOSTON 29, MASS.
OFFICES IN PRINCIPAL CITIES

MYCO PRODUCTS

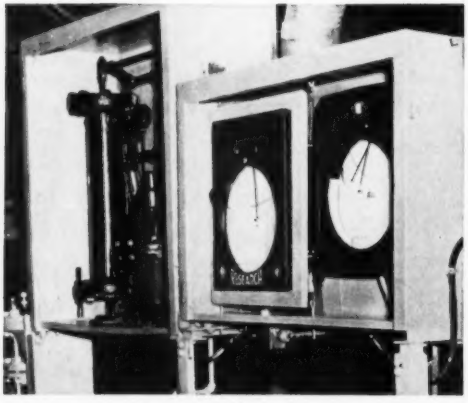
EFFECTIVE INSULATION—*Used in both research and quality control, these instruments automatically record temperatures at many points in a "test wall" of paper insulating material.*

BETTER FOODS MEAN HEALTHIER BABIES—*Pilot plant at Baby Foods Division of Gerber Food Products makes use of* ***ElectroniK*** *recorder to check all-important processing temperatures during test runs.*

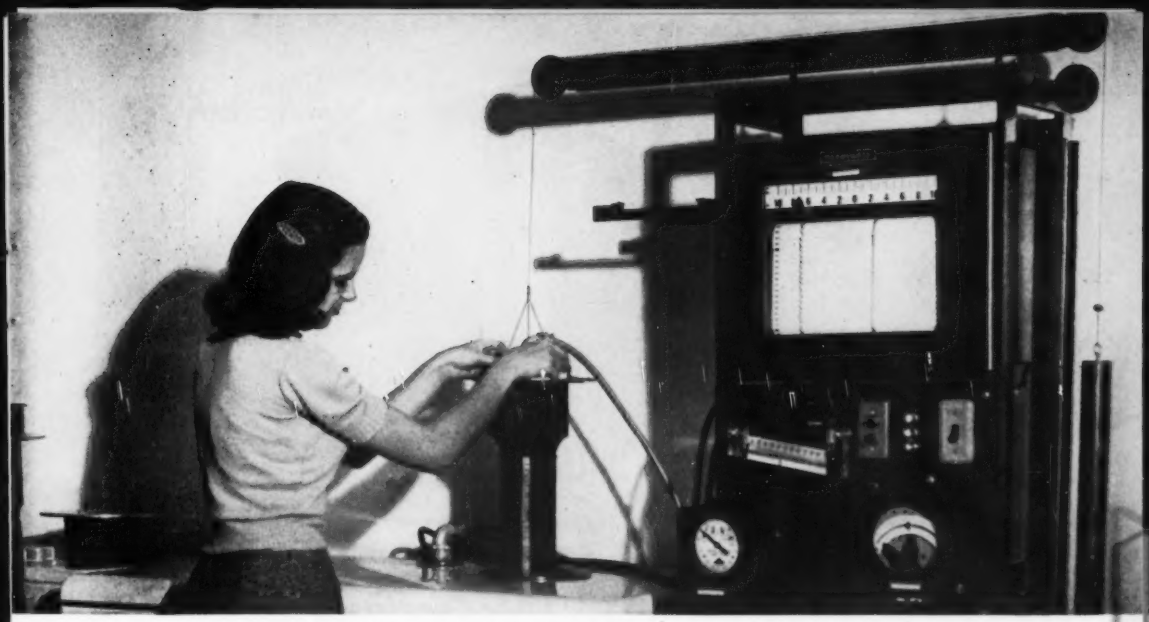
For all of industry... *especially*

Instruments

TORQUE MAGNETOMETER *used by researchers at United States Steel Corporation tells whether a steel sheet can be "drawn" into a deep cap for a ketchup bottle. Shape of curve drawn by recorder pen tells the magnetic, hence the shaping, story.*



FILAMENTS FOR FABRICS — *These instruments, in one of America's foremost rayon plants, are contributing to the stability of pilot plant processing in the development of finer filaments for tomorrow's fabrics.*



WARMTH WITHOUT WEIGHT *is the goal of projects such as this . . . where an* **ElectroniK** *strip chart potentiometer is used to measure and control temperatures in tests for evaluating the thermal insulating properties of fabrics.*

for the textile industry

accelerate research

THE PRESENT and future progress of the Textile Industry is closely associated with the rate of technological advances . . . and they, in turn, depend upon the acceleration of research.

Notable among the more important tools of the researcher are modern instruments and controls which bring to the laboratory the same speed and accuracy which have meant so much to the new efficiencies of processing operations.

Today's researchers get things done in a hurry . . . in many cases, with the help of some modification of the versatile *ElectroniK* potentiometer. Spectrophotometric measurements, colorimetry, conductivity, pH, tensile strength, temperature and relative humidity in conditioned chambers, radiant energy measurement, and temperature records in laboratory procedures . . . all join in helping to produce such desirable end results as more weavable warp, faster dyes, lighter weight fabrics.

The complete line of Brown instruments and controls serves the scientist with accuracy, speed and dependability in keeping with the standards of performance it has set for the machine operator.

Our local engineering representative will welcome the opportunity to discuss all of your instrumentation requirements . . . and he is as near as your phone.

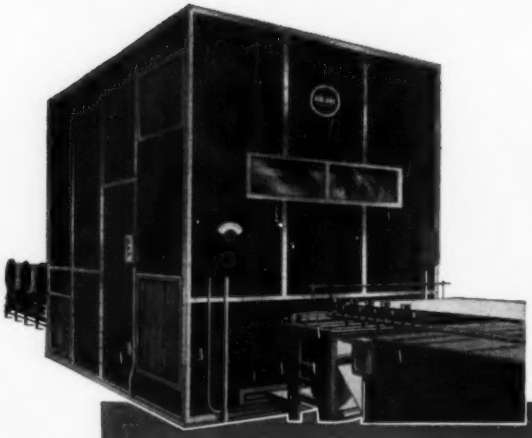
MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4509 Wayne Ave., Philadelphia 44, Penna.

MINNEAPOLIS
Honeywell
BROWN INSTRUMENTS
First in Controls

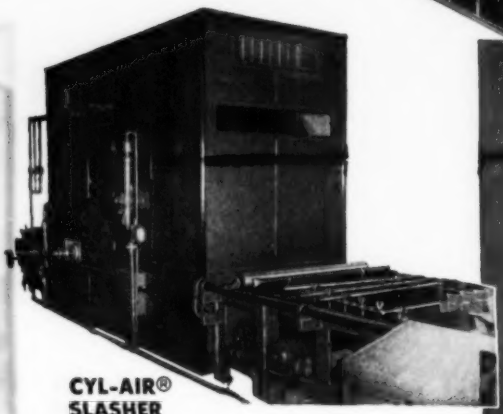
● *Important Reference Data*

Write for 84-page bulletin "Instruments Accelerate Research" . . . and Data Sheets on instrumentation for a variety of specific applications.

For more information, write direct or use Reader Service post card.



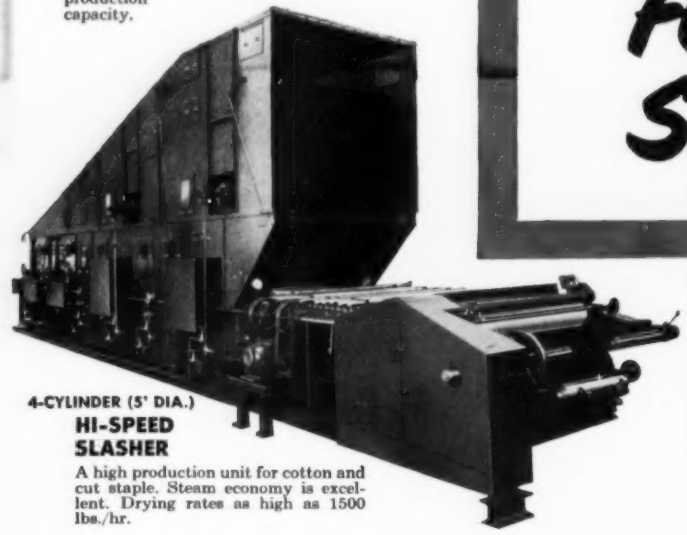
AIR-DRI SLASHER
® (Patented)
A high-capacity, hot-air type that is satisfactory for cotton, wool and spun synthetics. Drying rates as high as 1500 lbs./hr.



CYL-AIR® SLASHER
(Pat. Pending) A new type of dryer that combines benefits of hot air and cylinder methods of drying. It is a highly versatile unit with big production capacity.

For Consistent Quality
Warps at Higher Speeds
Lower Operating Costs . . .

TRY THESE FOR SIZE

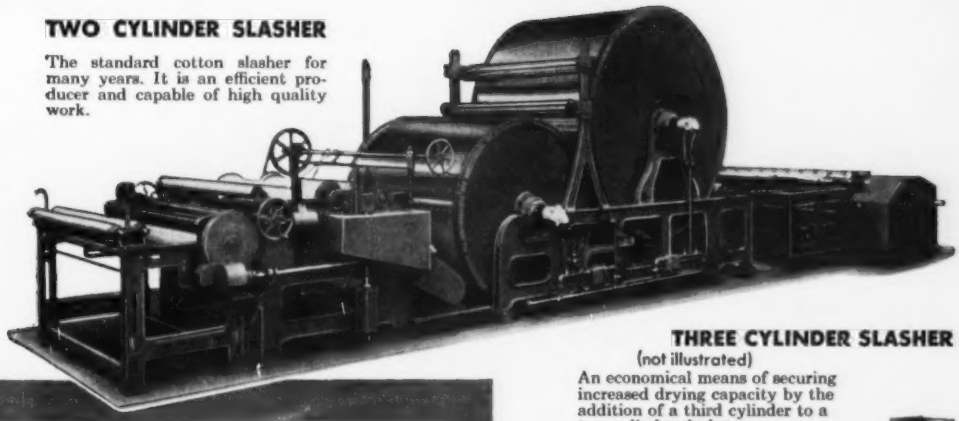


4-CYLINDER (5' DIA.)
HI-SPEED SLASHER
A high production unit for cotton and cut staple. Steam economy is excellent. Drying rates as high as 1500 lbs./hr.

AT THE
GREENVILLE
TEXTILE SHOW
Exhibit No. 516

TWO CYLINDER SLASHER

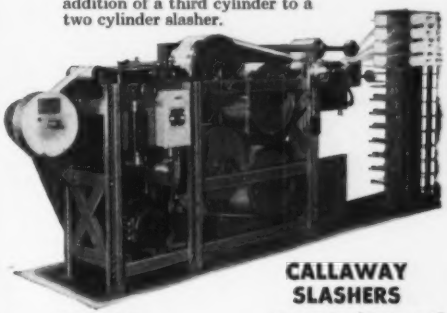
The standard cotton slasher for many years. It is an efficient producer and capable of high quality work.



THREE CYLINDER SLASHER

(not illustrated)

An economical means of securing increased drying capacity by the addition of a third cylinder to a two cylinder slasher.

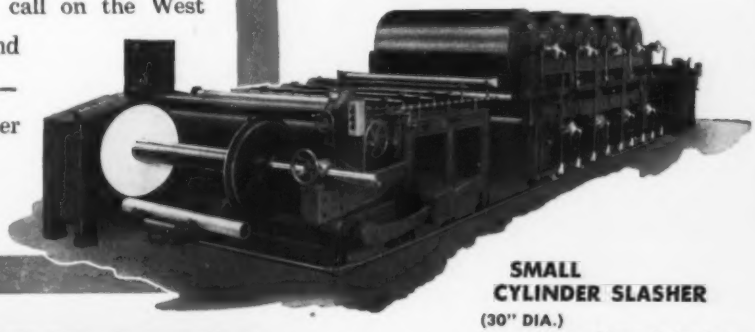


CALLAWAY SLASHERS

Model 50 **Model 51** (illustrated)

Small, narrow-width machines capable of making full width warps for samples, testing, etc., using small amounts of yarn.

There's a WPF&M slasher for virtually every slasher room requirement . . . sample slashing or full production . . . the lightest gauze or the heaviest sheeting . . . natural fibers or synthetics. Whether you require a complete slasher installation from size preparation to the finished warp or modernization of your present equipment, call on the West Point Foundry and Machine Company—specialist in slasher room machinery.



SMALL CYLINDER SLASHER

(30" DIA.)

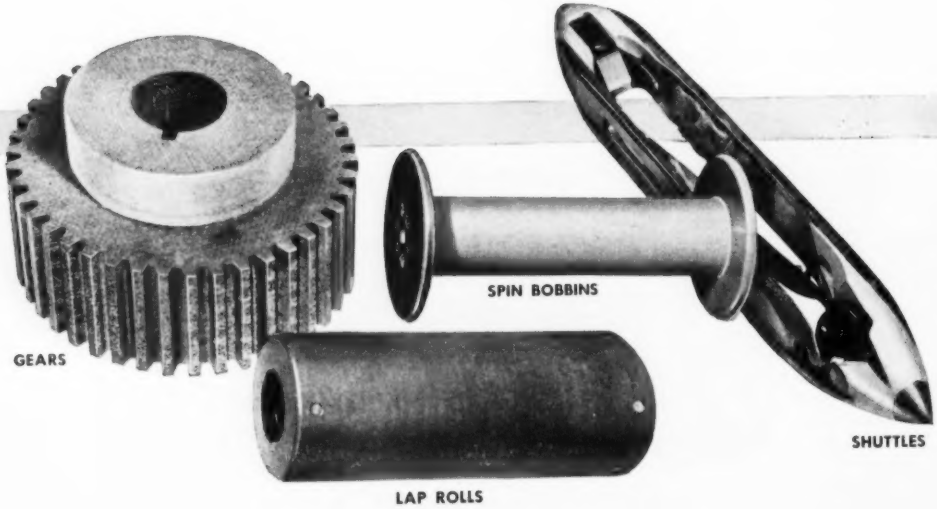
A versatile machine suitable for cut staple and filament yarns. Can also be used for cotton.

WEST POINT FOUNDRY & MACHINE COMPANY®

WEST POINT, GEORGIA

® Registered Trade-Mark

here's why... MORE and MORE mills are turning to micarta®...



because of these qualities . . .

Saves Weight, weighs half as much as aluminum.
Resists Compression, pound for pound greater than steel.
Resists Impact, absorbs and withstands severe shock.
Withstands Vibration, cushions repeated shock without effect.
Insulates like mica but greater flexibility.
Resists Corrosion, not affected by acids, oils, fumes.
Resists Heat and Cold from −112° F to 212° F.
Resists Moisture, in fact, water is its best lubricant.
Wears Slowly, Evenly, in many cases more slowly than metal.
Reduces Noise, absorbs vibrations, deadens noise.
Fabricates Easily, machined or punched with ordinary tools.

because of these flexibilities . . .

Laminated MICARTA includes standard structural shapes: plates, sheets, angles, channels, rods, tubes and zees. Occasionally this class includes simple molded shapes.

Molded MICARTA is the choice for complicated shapes, large production quantities of either simple or complicated shapes, or for certain properties better obtainable in form molding.

because micarta is basic

MICARTA is a tough and resilient basic material that welcomes comparison with other basic materials. This versatile plastic outlasts wood and metal in many punishing applications. Investigate MICARTA and you'll find it the economical solution to tough production problems.

YOU CAN BE SURE... IF IT'S
Westinghouse
micarta

for more information on how MICARTA can help solve your production problems, and give you advantages no metal can give you, please fill out the coupon below. A MICARTA representative will then call on you personally.

mail it today!

Westinghouse Electric Corporation
MICARTA Division, Trafford, Pa.
Attention: L. A. Pedley

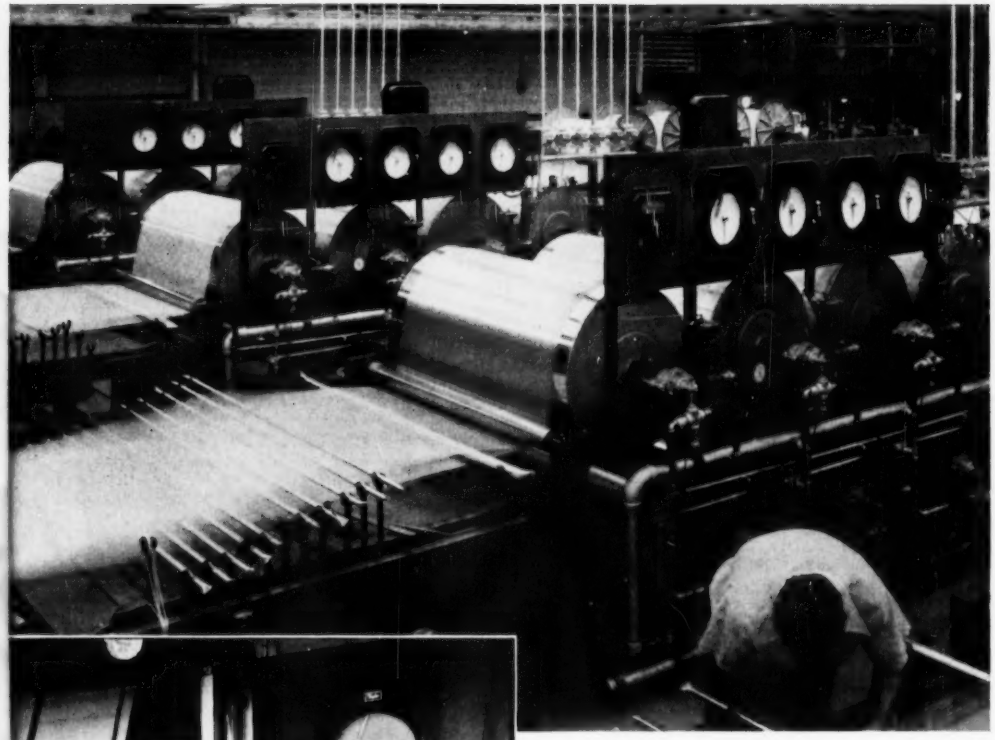
Sir: (Please Check One)

☐ Please have your representative call
☐ Please send me the complete facts on MICARTA

Name_____ Company_____
Address_____
City_____ Zone____ State_____

J-06501

TAYLOR IS SHOWING



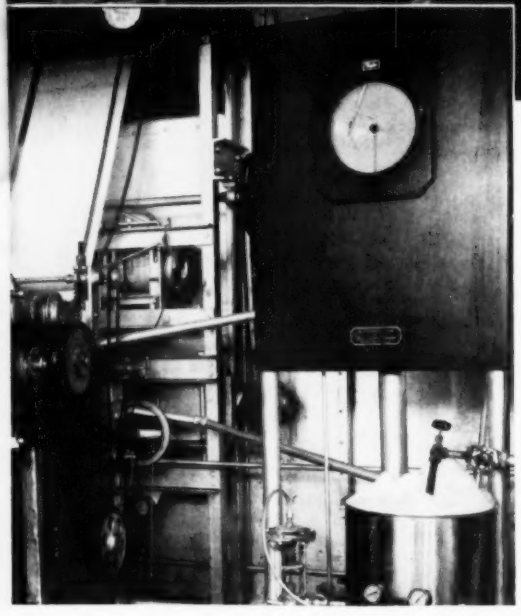


PHOTO ABOVE

Taylor keeps these modern High Speed Slashers under accurate control, regardless of operation temperature requirements. Control of condensate gives closest possible relationship to cylinder surface temperature to produce a properly slashed warp. Taylor's system of quick, automatic heat-up eliminates time lost waiting for traps to empty.

PHOTO AT LEFT

Fewer rejects on knit fabric due to more accurate control of specific gravity of the sizing solution. Recorders or controllers available with direct-reading Twaddle scale.

PHOTO ON OPPOSITE PAGE

Taylor controlled piece-dye kettle at a large eastern knitting mill showing Taylor FULFLEX* Time Schedule temperature controller which assures uniform dyeing conditions, cuts operating costs, preserves quality of dyed fabric and eliminates expensive human error.

COST CUTTERS IN BOOTHS 427-8-9

DROP in and let's discuss how Taylor can help you cut costs on almost any mill operation. You'll see on display—

1. Roll or Nip pressures more accurately measured and recorded by VOLUMETRIC RECORDERS.

2. Faster, more accurate measuring elements provided by TRANSAIRE* temperature and pressure transmitters.

3. Precise control with single knob adjustment to tune in the control responses with BI-ACT* controllers.

4. Size of panel boards reduced—costs lowered, by TRANSET* indicating and recording receivers.

5. More accurate cost accounting on wet finishing operations with Taylor FLOW METERS.

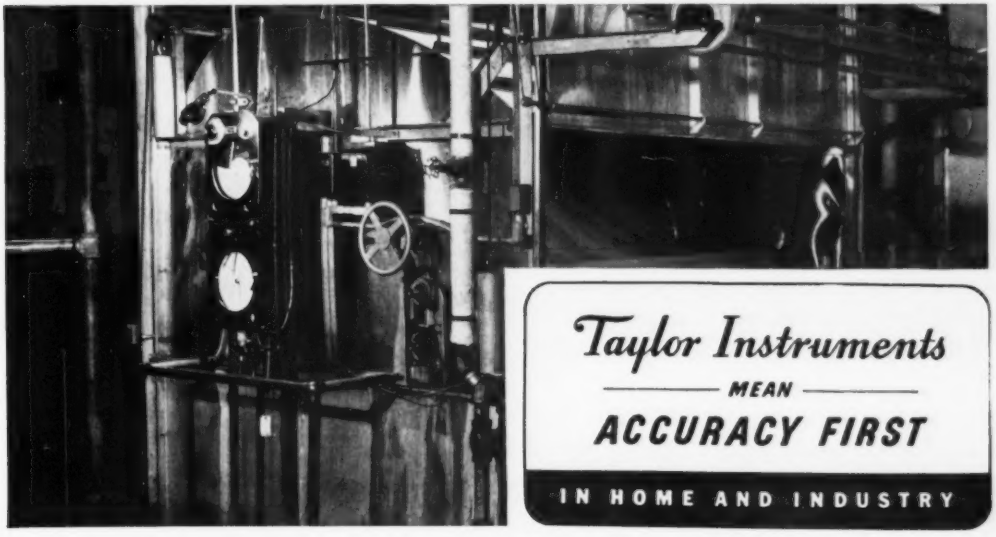
6. More uniform shade matching—steam saved, operator responsibility reduced by COORDINATED PANELS FOR PACKAGE DYEING.

7. New answer to Squeeze Roll Pressure—know pressure on both ends of your size box squeeze roll with Taylor's new SQUEEZE ROLL PRESSURE CONTROL. Measures and controls actual pounds of pressure applied directly to the roll—unaffected by friction or leaking air.

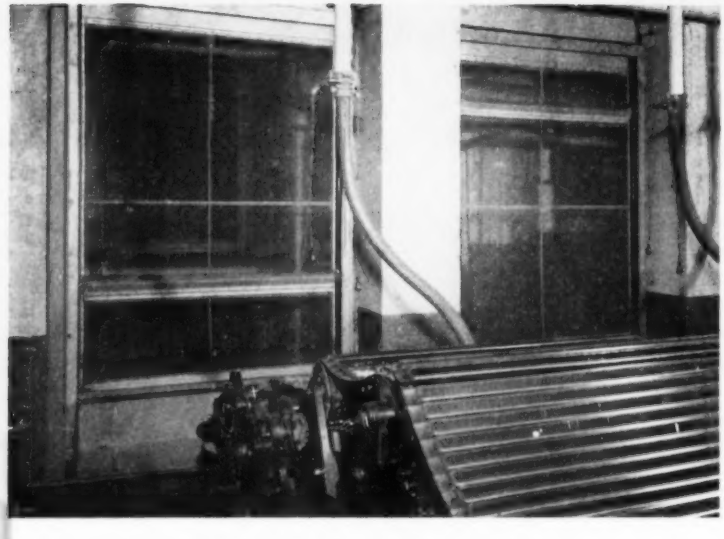
Taylor Instruments can protect quality, cut operating costs, in most every phase of textile manufacturing. Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

Instruments for indicating, recording and controlling temperature, pressure, flow, liquid level, speed, density, load and humidity.

*Trade-Mark



Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY



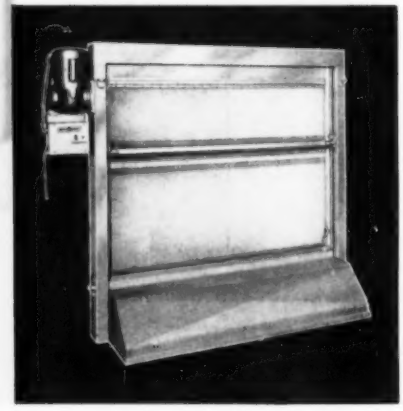
Bahnson Type S Air Cleaners

Type S Air Cleaners located at return air openings in Card Room. The screens are kept so clean you can see through into the air conditioning apparatus room.

Automatic Lint Filtering

Cuts Maintenance Costs

Bahnson Type S Air Cleaners are designed to give you automatic lint filtering at low first cost and low operating cost in Carding, Spinning and other dry lint areas. Type S Cleaners eliminate routine cleaning of return air screens, one of your greatest sources of maintenance man-hours. First cost is low because of the simple, efficient design. Operating cost is low because Type S Cleaners do not require replacement or disposal of filter media.



The Bahnson Cleaner consists of a permanent filtering screen mounted in a durable metal framework. A motor-driven wiper blade, controlled by an automatic timer, moves down the screen surface to remove lint and deposit it in a receptacle. Collected lint is reclaimed for further savings, no disposal problem here either.

Bahnson Type S Air Cleaners allow air conditioning systems to operate at full efficiency without costly shut downs for lint removal. High velocity filtering allows use of compact units. Fully automatic and completely self-contained, Type S Cleaners are simple to install individually for unit systems or in multiples for central station systems.

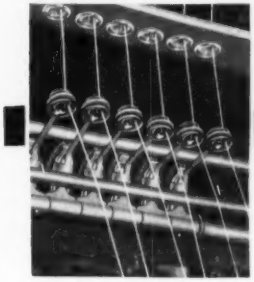
Learn how you can cut maintenance costs and eliminate routine cleaning with this efficient, automatic lint filter. Ask any Bahnson Representative or address The Bahnson Company, Winston-Salem, N. C., requesting Bulletin 15A.

FULL VALUE . . . .
FOR YOUR AIR CONDITIONING DOLLAR

Bahnson Company
AIR CONDITIONING · HUMIDITY CONTROL
ENGINEERS AND MANUFACTURERS
WINSTON-SALEM, N. C.

Mc BRIDE *Textile Equipment Data*

PUBLISHED BY EDWARD J. McBRIDE CO., INC. • 1400 ADAMS AVENUE • PHILADELPHIA 24, PA.



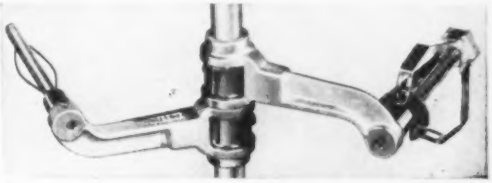
THESE NEW McBRIDE DEVELOPMENTS SAVE YOU TIME AND MONEY

STOP MOTIONS

Sealed Mercury switches — Positive action — two-way signal lights. Hermetically sealed mercury switches give positive action under all conditions, eliminate the dangers of failures due to lint or dust. Two types provide rugged dependability for heavy yarns, extra sensitive fast action for very light yarns such as 15 denier Nylon.

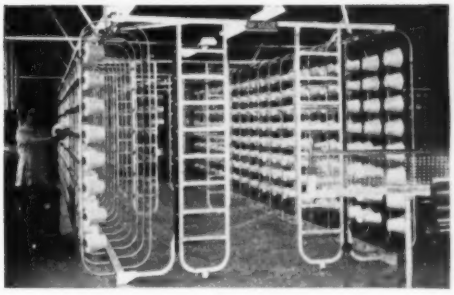
McBRIDE UNIVERSAL CONE HOLDERS BRING YOU THESE BASIC ADVANTAGES

1. Accommodate most types and sizes of packages.
2. Instantly convertible from cones to tubes.
3. No set screws.
4. Will not snag ballooning yarn.
5. Mounted on swinging arms for fast package change.
6. Cone holder revolves to facilitate tying of transfer tails.



INSTANT CHANGE FROM CONES TO TUBES

There are no set screws or other mechanical adjustments of any kind required to make this practically instantaneous conversion. No chance of delay, no need to look for tools. Cone holder snaps into place and locks firmly yet is free to revolve, facilitating the tying of transfer pigtails. This entire operation can be performed by the creeler while he is changing packages. **AVAILABLE AS A SEPARATE UNIT.**



EXTREME FLEXIBILITY WITH McBRIDE MAGAZINE CREELS

All the advantages offered by McBride Universal Cone holders and electromagnetic stop motions, plus extreme flexibility, are yours with McBride SRM Magazine Creels. McBride Magazine Creels can be set up with the yarn coming down either inside or outside. Tandem assembly is also possible where floor space is limited.

McBRIDE VERTICAL MAGAZINE CREELS FOR HEAVY YARNS AND LARGE PACKAGES

BEAMS: Section — Loom — Narrow Fabric — Tricot — designed and built to your specifications.

SEE ALL THESE McBRIDE PRODUCTS AT THE SOUTHERN TEXTILE EXPOSITION BOOTH 237

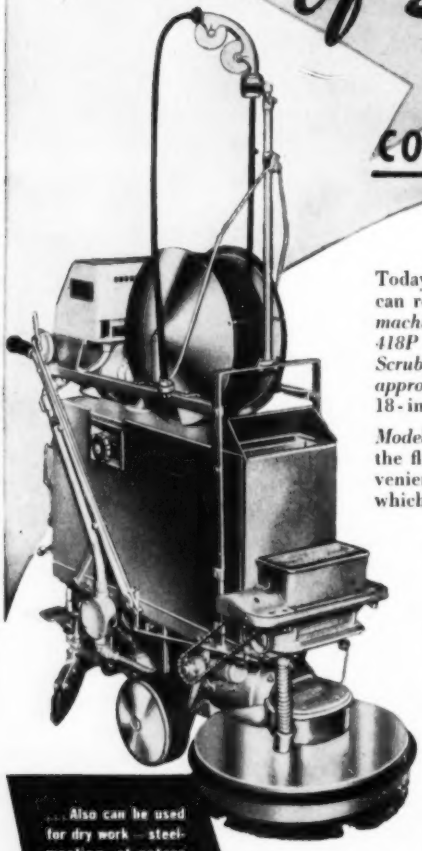
CREELS *for every purpose,* WARP BEAMS • FLANGES • ROLLS **Mc BRIDE**

SMALL-AREA BUILDINGS...

Save 2/3 of Every Hour of Scrubbing Time

WITH A

COMBINATION SCRUBBER-VAC!



...Also can be used for dry work — steel-wooling, et cetera

Today, even buildings with but 2,000 to 15,000 sq. ft. of floor space can reap the labor-saving, cost-reducing benefits of *combination-machine-scrubbing.* Here's a *Combination Scrubber-Vac, Model 418P* at left, that's specially designed for such buildings. This *Scrubber-Vac,* which has an 18-inch brush ring, cleans floors in *approximately one-third the time* required with a conventional 18-inch machine and separate vac unit.

Model 418P applies the cleanser, scrubs, and picks up (damp-dries the floor) — *all in one operation!* Maintenance men like the convenience of working with this single unit... the thoroughness with which it cleans... and the features that make the machine simple to operate. It's *self-propelled,* and has a *positive* clutch. There are no switches to set for *fast* or *slow*—slight pressure of the hand on clutch lever adjusts speed to desired rate. The powerful vac performs efficiently and quietly. (Powder dispenser is optional.) Compactly built, the *418P* also serves advantageously in larger buildings for the care of floors in narrow aisles and congested areas.

Finnell makes *Scrubber-Vac Machines* for small, vast, and intermediate operations, and in *self-powered* as well as *electric* models. From this complete line, you can choose the size and model that's exactly right for *your* job (no need to *over-buy* or *under-buy*). It's also good to know that you can lease or purchase a *Scrubber-Vac,* and that *there's a Finnell man nearby* to help train your maintenance operators in the proper use of the machine and to make periodic check-ups. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1909 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

Conserve Manpower with Completely Mechanized Scrubbing

FINNELL SYSTEM, INC.

Originators of Power Scrubbing and Polishing Machines

Everything FINNELL for Floor Care

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to your

conveyor questions

Plan now to visit the friendly Alvey conveyor engineers — and bring your conveyor problems with you. There's nothing the Alvey men like more than helping you develop the most efficient and economical product handling plan for your mill. You're sure to profit by their experience in designing conveyor systems for some of America's largest textile producers.

Make it a date to get better acquainted with Alvey at Greenville—but if you can't make it, please ask us to send an Alvey conveyor engineer to visit you.

Be sure to visit Booth 602

ALVEY *St. Louis*

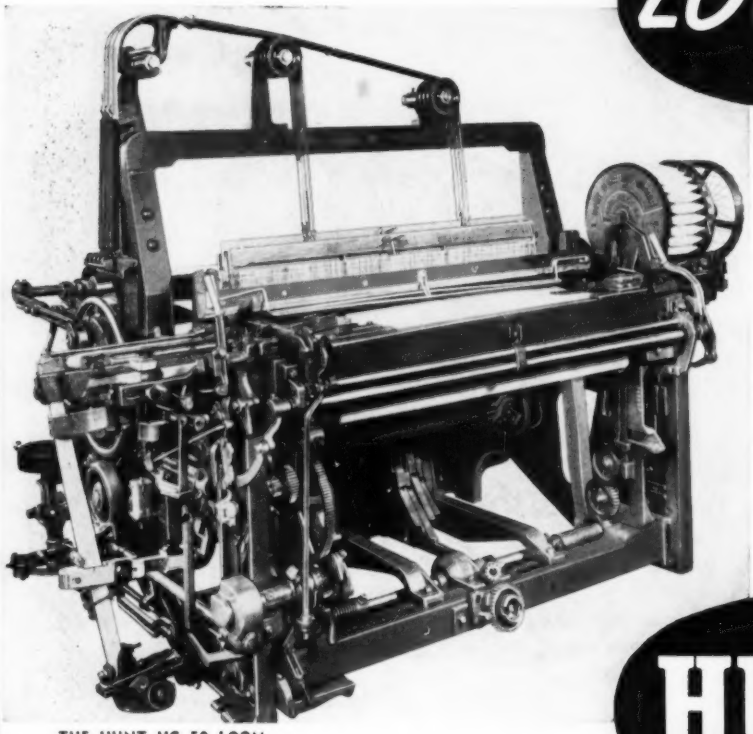
33

ENGINEERED PACKAGE HANDLING SYSTEMS

ALVEY CONVEYOR MFG. COMPANY, 9305 OLIVE STREET ROAD, ST. LOUIS 24, MISSOURI • *OFFICES IN PRINCIPAL CITIES*

For more information, write direct or use Reader Service post card.

2 NEW HI-SPEED LOOMS



THE HUNT HC 50 LOOM

by HUNT

The new cotton looms, HC 50 and HL 16, by Hunt, feature heavy construction in the sides. Both looms are equipped with the improved Hunt Spreader that has four bearings to stabilize the crankshaft and two additional bearings on the camshaft.

The HC 50 loom permits operation at high speed with continuous production. Features include:

1. The weaving of heavy cotton fabrics up to 64-in. wide
2. The Hunt No. 8 individual motor drive with demountable gear
3. Roll and shaft, or Brown spring-top harness motion, or 20-harness dobby
4. A crankshaft diameter of $1\frac{5}{8}$ in. A camshaft diameter of 1 15/16 in.
5. Single or double side-filling stop motion, or a center-filling stop motion

The HL 16 Loom features:

1. Lighter constructions of cotton fabrics up to 60-in. wide
2. The Hunt No. 1 drive with tapered bushings and demountable gear
3. Roll and shaft, or Brown spring-top harness motion, or 12 harness dobby
4. A crankshaft diameter of either $1\frac{5}{8}$ in. or $1\frac{3}{8}$ in. A camshaft diameter of 1 9/16 in.
5. Single or double side-filling stop motion
6. Electric or sliding bar warp stop motion

The HC 50 and HL 16 Looms have many features that insure trouble-free operation.

Write now for descriptive folder and further details.

HUNT LOOM & MACHINE WORKS, Inc.

200 Academy St. Greenville, S. C.

See these Hunt Looms and other Hunt products at the Greenville Textile Show — October 6-11 (inclusive) Booths #129 and #130

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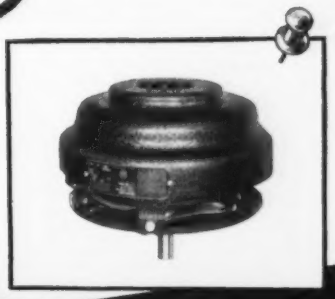
VISIT BOOTH 706 • SEE FULL LINE OF F-M SCALES • EMERGENCY POWER UNITS • FIRE PROTECTION EQUIPMENT • WATER SUPPLY SYSTEMS • ELECTRICAL EQUIPMENT ...AND NEW TEXTILE MOTOR

new open-cover lint free axial air gap textile motor



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ELECTRIC MOTORS AND GENERATORS • MAGNETOS • DIESEL LOCOMOTIVES AND ENGINES
PUMPS • SCALES • HOME WATER SERVICE EQUIPMENT • RAIL CARS • FARM MACHINERY

See them in Action at the "GREENVILLE SHOW"*

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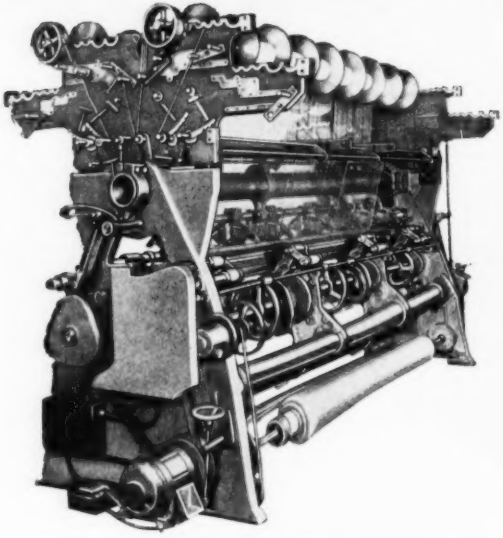
GREENVILLE, S. C., OCT. 6 TO 11



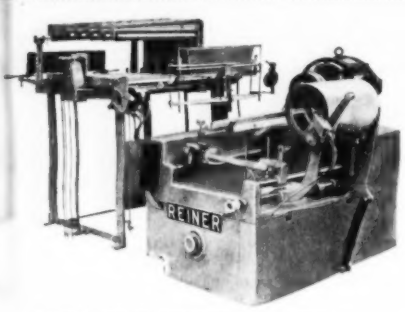
REINER RASCHEL MACHINE

This unit is the latest model in an unbroken line of Reiner Raschel Machines for three decades. It is sturdily built to withstand fastest speeds. It is offered with one or two needle bars, and up to 8 guide bars.

Optional features include: Chopper Plate—Automat—Plush Points—Crepe Attachment—Stitch Comb—Rubber Beam Feeding Device—and others. Gauges 24-36-40 (English) or to be your specifications. Knitting width 100" and 112".

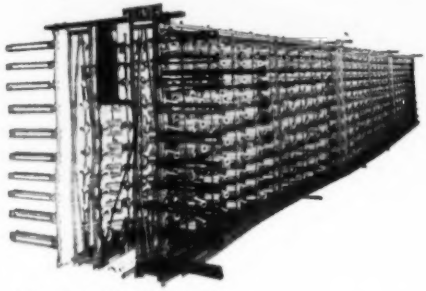
THE REINER LINE—

Tricot Machines (2- and 3-bar, 84" and 168")—Simplex (Double Knit) Machines—Raschel Machines—Magazine Creels—Single Type Creels—Truck Creels—66 Gauge (4 Section) Full-Fashioned Hosiery Machines—Automatic Schiffli Embroidery Machines (10 and 15 yards)—Bobbin Winding Machines (for Stitching or Quilting)—Ready Spare Part Service for all Reiner Machines.



REINER SW-24 SECTIONAL WARPER

These SW-24 machines are team mates of Reiner Creels and Warp Knit Machines—preferred by many mills. Spools up to 21" in length—flange diameter up to 24". Adaptable to multiple spools for narrow fabrics. Reiner offers sectional warpers up to 84"—all readily usable with any make warp knit machines.



REINER MAGAZINE CREEL

These creels are favorites in many mills. They feature various stop motions, tension devices, balloon control. Suitable for all types of yarns and packages, including nylon pirns. Other Reiner Creels are Truck, Single Type, Heavy Duty, or to your specifications. These creels are also readily usable with any make warper or warp knit machines.

ROBERT REINER INCORPORATED

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Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882.

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METAL HOLDER NO. 50-482-201 may be ordered from Universal Winding Co., Providence 1, R. I.

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BUTTON GUIDE for UNIVERSAL No. 50 WINDING MACHINE

Photo courtesy American Thread Company, Bristol, Tennessee

LEESONA ATWOOD®

ADVANTAGES

- **Self threading**
- **Uniform slot width**
- **Accurate delivery point**
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TEST SAMPLES ON REQUEST

AlSiMag Button Guides will be furnished for tests without charge. Request AlSiMag No. GS-25273. Available in AlSiMag 192 (considered standard), AlSiMag 193 (conductive), and in AlSiMag 513 (Super long wearing)

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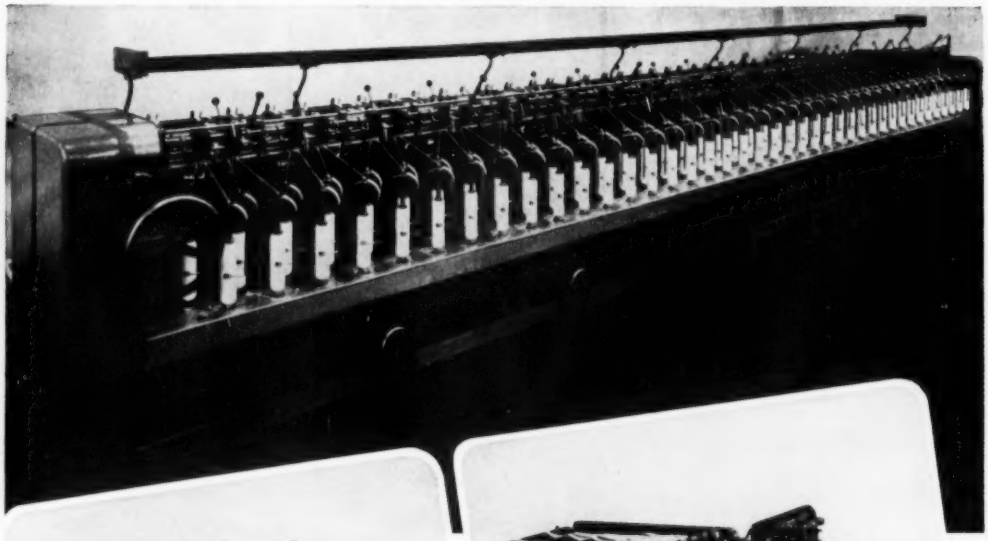

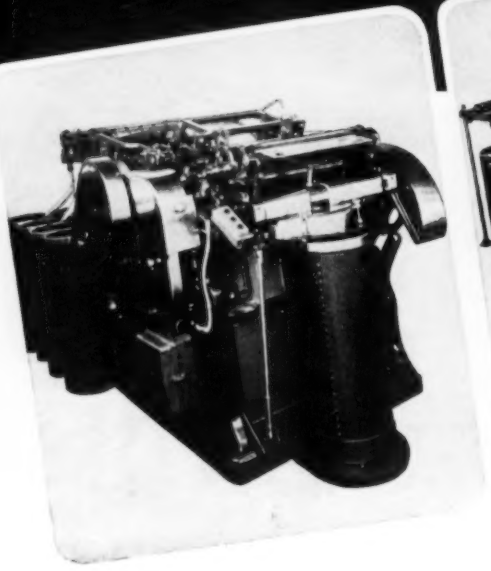

Above: Model BP Gill Flyer
Left: Rectilinear Comb for wool and synthetics
Right: Special Heavy Duty Gill Box

THE SANT' ANDREA SYSTEM FOR ALL LONG STAPLE FIBRES

- *Hundreds of installations all over the world*
- *Over 25 years experience*
- *Prompt service*

Represented at the Greenville Show

GROWING DEMAND FOR UNIFORMITY ANALYZER

brings new Brush "peak performance" service policy to Southeast!

• More and more mills are discovering the important benefits of the Uniformity Analyzer. To assure the peak performance and widest use of this instrument, The Brush Development Company and its Southeastern representatives W. A. Brown & Associates announce a new service policy for the states served by Brown.

This comprehensive policy provides a staff of textile-trained application engineers and service experts. These men will inspect Uniformity Analyzers periodically to make sure that these sensitive instruments are giving most accurate results. They will also assist users in interpreting and applying data to the mill's problems. In case of emergency, they will provide 24-hour service.

The new expanded policy applies to all new orders for Uniformity Analyzers in Southeastern states. It also will be available in the near future for existing installations in that area. In other regions, Brush technical assistance and service will be available as usual for all users of Uniformity Analyzers.

For full information, write The Brush Development Company, Dept. GG-37, 3405 Perkins Avenue, Cleveland 14, Ohio.

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Magnetic Recording Equipment
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For more information, write direct or use Reader Service post card.

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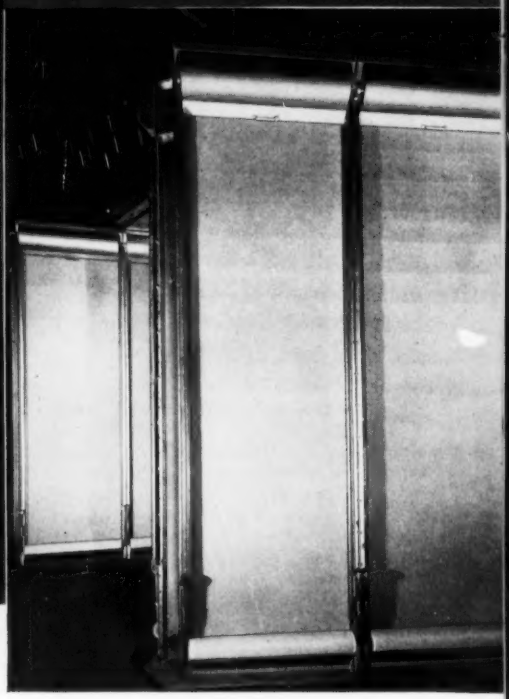
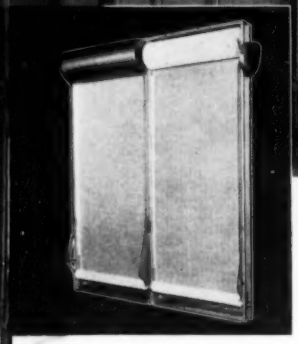
AAF GREETS YOU





NEW AUTO-AIRMAT

It rounds out the AAF Line, offering a specialized automatic filter for the textile industry. It is designed especially for cleaning recirculated air with heavy lint content—the big problem of the industry.

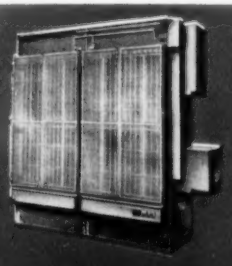
This new unit has a filter medium of Airmat* Paper which rolls on a rotating screen in the path of the air stream, gathering lint and rolling it into an easily removed package at the bottom of the unit. The rate at which the unit works is automatically controlled by a pressure switch which activates the moving screen each time the resistance builds up to a predetermined point. This offers dependable filtering with simplified maintenance. This dry-type filter is fully automatic—first in the field!

VERTICAL SECTIONS OF AUTO-AIRMAT

Screen is rotated by a 1/4 H.P. motor. One drive assembly handles up to six sections. Operation is fully automatic.

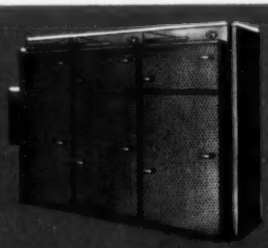
AAF'S ELECTRO-MATIC

has a self-cleaning feature to simplify maintenance. This electronic precipitator is automatic, requires no oiling or washing of collector plates. Complete factory-assembly provides fast installation.



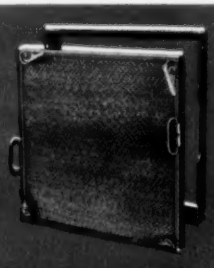
ELECTRO-CELL

AAF designed this unit with vertical sections. Removable plates allow tank cleaning, manual "in-place" washing or automatic washing.



AAF'S HV-2

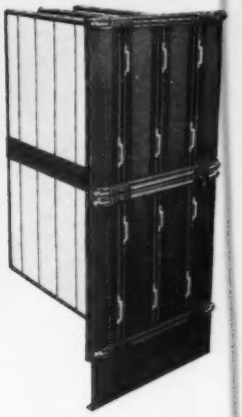
This high velocity filter handles up to 500 F.P.M. yet is effective when used with lower velocities. No through-air passage, thus collected material is not dislodged to re-enter air stream.



IN GREENVILLE

with the only complete line of air cleaners for the textile industry

Come see the latest additions to the world's greatest line of air cleaning equipment. AAF hangs out its welcome sign at Southern Textile Exposition with these units especially for the textile industry.



ASSEMBLY OF AIRMAT UNITS

in the Lint Arrester. Note wide pocket spacing, no ledges for lint build-up. Any number of these units may be used as needed to handle a given air volume.

AIRMAT LINT ARRESTER

Here's your answer to the problem of troublesome lint and dust in the air exhausted from picking, opening and similar machines. Conserves heat or air that is humidity controlled by recirculating cleaned air to workrooms.

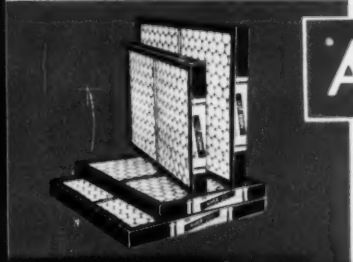
Valuable floor space can be conserved with the AAF Lint Arrester because a minimum of space is needed for settling chamber or dust basement. Easy to install too—it's built from standard units.

★ ★ ★

**AIRMAT is the trade-mark (Reg. U.S. Pat. Off.) of the American Air Filter Company, Inc., for various air filters, dust collectors and filtering media.*

AMER-GLAS REPLACEABLE FILTER

Where forced air requires an efficient filter of the "throw-away" type, use this new AAF product. Media of continuous glass filaments is thermoplastic bonded, coated with fireproof Viscosine. Five standard sizes, two different thicknesses.



AT THE SHOW....

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For specialized problems of air cleaning and complete information write direct to

American Air Filter

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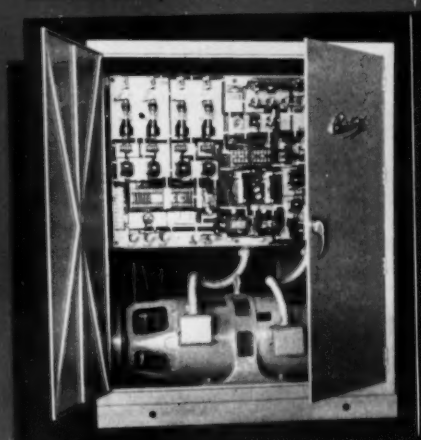
American Air Filter of Canada, Ltd., Montreal, P. Q. • Pacific Division Office, San Francisco, Calif.

Dial the Production Speed

TO SUIT YOUR EXACTING
PROCESS REQUIREMENTS
WITH A

Century SELECTIVE SPEED Drive

POWER UNIT—Inside front view showing control and motor generator set.



Side view of power unit showing air cleaner for forced air ventilation.

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CENTURY ELECTRIC COMPANY

Century SELECTIVE SPEED, ALL ELECTRIC, MOTOR DRIVES

- Operate from alterating current.
- Offer an extremely wide range of practically stepless speed control, to cover the variable processing requirements in modern Textile practices.
- Engineered for specific application requirements, with regard to: Load jogging—load acceleration—normal or quick deceleration with adjustable dynamic braking—jog in reverse or run in reverse, or both—multiple coordinated drive motors—remote single or multiple control positions.
- For applications such as: Slashers—Ranges—Water Mangles—Warpers—Calenders—Sanforizers—Printing and Dyeing—Bag Making Machinery—etc.

Call for a Century Application Engineer TO EXPLAIN FURTHER DETAILS OF THE CENTURY SELECTIVE SPEED DRIVE

Side view of Power Unit. Rear doors are available when special control requires access.

Century Textile Motors Shed Lint
Other Century Motors are offered in ratings from ⅛ to 400 horsepower--A.C. and D.C.—with drip proof—splash proof—dust proof—and explosion proof. frames.

Typical drive motor which operates from the alternating current power unit.

Century C MOTORS

Offices and Stock Points in Principal Cities

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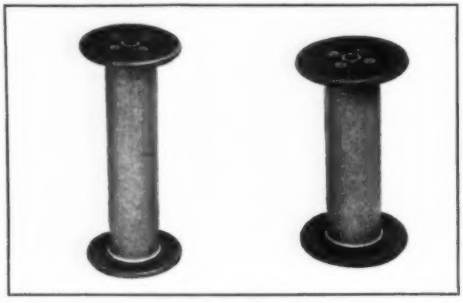
ALL TYPES OF BOBBINS

FOR FINE YARN PROCESSING

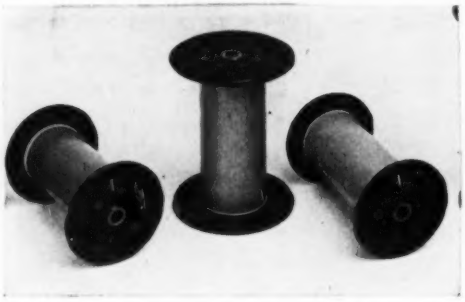
THESE ARE JUST A FEW of the many different MACK bobbins currently manufactured to customer specifications.

MACK TAKE UP BOBBINS are available in several combinations of materials to fit your price and performance requirements. Aluminum, stainless steel, or Bakelite heads are securely fastened to bodies of select, kiln-dried rock maple or molded Bakelite.

THE NEW MACK MOLDED BAKELITE BARRELS withstand the crushing force of nylon. Despite deliberate efforts to crush this bobbin by excessive winding tension and lengthy steaming at high temperatures, not one has failed in service.



MACK TWISTER BOBBINS with Bakelite Heads and Bakelite Barrels withstand steaming without distortion. Concentric and dynamically balanced, these high-speed Mack Bobbins are dimensionally stable—are vibrationless and remain so even after repeated steamings.



WINDER SPINNER BOBBINS with Bakelite barrels and vulcanized fibre heads give greater impact strengths and lower cost (than all-Bakelite) where steaming is not required. Mack Twister and Winder Spinner Bobbins are also made with rock maple barrels and either Bakelite or vulcanized Fibre heads.

MACK SHIPPING BOBBINS of all sizes are manufactured by Allentown.

NEW HEADLESS PACKAGES shown below with stainless steel gudgeons or for mandrels are designed and manufactured to individual customer requirements.

EVEN LOADING, VIBRATIONLESS RUNNING—Mack Bobbins are thoroughly tested for strength, concentricity, dimensional accuracy and vibration. Mack High Speed Bobbins can be dynamically balanced on our Gisholt bobbin balancing machine.

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FOR ALL YOUR BOBBIN REQUIREMENTS.

BOOTH 316 SOUTHERN TEXTILE EXPOSITION

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bobbin works, inc.

ALLENTOWN, PENNSYLVANIA

3 big savings with Gates Multi-Check Strap

1 ***Lasts 2 to 10 times longer***

than one-piece straps, scores of mills report. That's because the tough, resilient Tex-Hide in the Multi-Check Strap doesn't stretch, crack, or deform. And *progressive checking* distributes wear over all four molded bands, giving longer check strap life.

2 ***Makes picker sticks last longer.***

An *open-end* strap (1) drags around the ends of the picker stick, and (2) forces it against the back of the slot. Wear at these points weakens sticks. Double-brake checking with Multi-Check Strap eliminates this wear—saves sticks.

3 ***Makes pickers last longer, too.***

When an open-end strap forces the picker stick toward the back of the slot, the shuttle spur strikes the picker off-center, wearing out the side of the shuttle hole. Multi-Check strap keeps picker stick aligned with shuttle, eliminating this costly wear.

No down time for adjustments... smoother loom operation...

The savings in replacement costs of check straps, pickers, and picker sticks *are not the only savings.* Gates Multi-Check Strap greatly reduces down-time for replacement and adjustment of these parts.

And the smooth check you get helps eliminate shuttle bounce...makes looms run more smoothly.

All these advantages add up to *greater production, higher quality cloth, lower maintenance and replacement costs.*

Put Gates Multi-Check Straps on a section of your looms. Compare results!

The Gates Rubber Company, Denver, U. S. A.

Engineering offices and warehouse stocks in all textile centers.

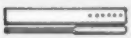
Here's the smoothest shuttle check you've ever had...

Picker stick contacts *top* band of Multi-Check Strap.

Stick is then slowed by *second* band of tough Tex-Hide.

Third band absorbs more of the shuttle force.

Fourth band takes its share of the shock. Stick is checked *gradually* by *all 4 bands* acting together.



Tex-Hide Harness Straps

Tractive-Rib Roll Covering Cone and Evenor Belts

Tex-Hide Reversible Pickers

Gates

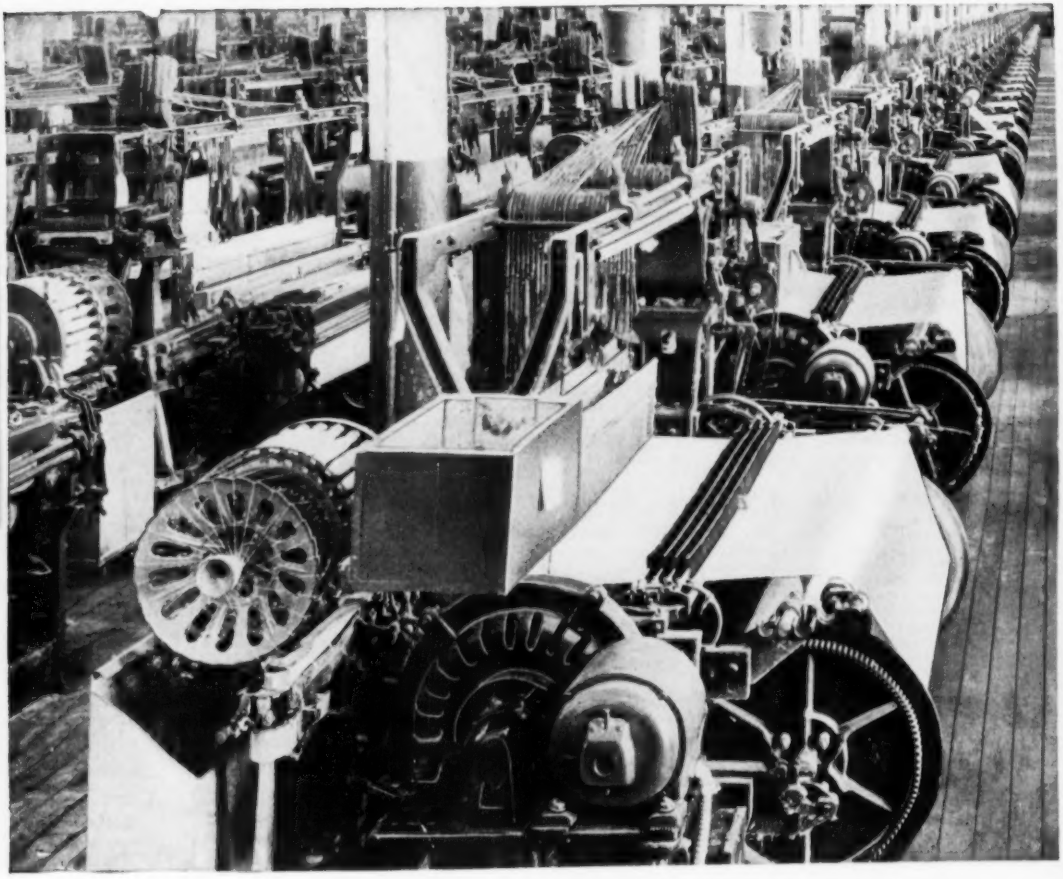
V-Belt Loom Drive Textile Mill Hose

Tex-Hide Loop Pickers

Tex-Hide and Super Tex-Hide Lug Straps

Gates Tex-Hide Multi-Check Strap

PROVED IN USE!



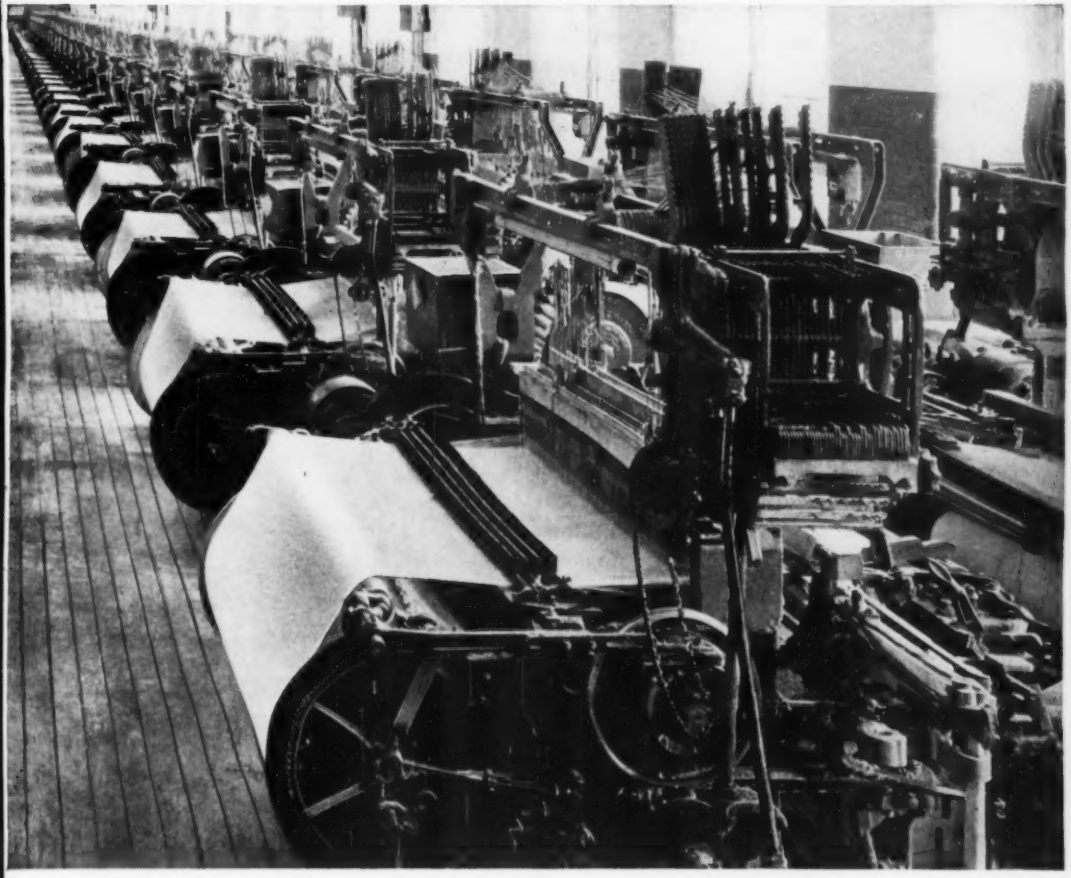
For lubrication counsel, contact your nearest Sinclair Representative or write Sinclair Refining Company, 600 Fifth Avenue, New York 20, N.Y.

HERE'S WHY SINCLAIR BEARING GREASE AF IS WIDELY ACCEPTED AS AN EXCELLENT LUBRICANT FOR ANTI-FRICTION BEARINGS:

Because it is highly resistant to oxidation, this great Sinclair product retains its *consistency* and *lubricating quality* under the toughest operating conditions. It is designed to *assure* freedom from leakage and loss due to softening and bleeding and the product spoilage which often results. The correct grade of Sinclair BEARING GREASE AF helps *reduce* starting load and power consumption by cutting friction to a minimum. It also protects against rust and corrosion of bearings.

Yes, all these *important* advantages have been *proved* by performance in many mills. And they can save *you* money. Less frequent applications are required, bearings last longer, and power costs are lowered.

Investigate, too, the advantages of Sinclair LILY WHITE Oils for spindles *and* Sinclair NO DRIP Oils for top rolls. They also have been *proved in use!*



SINCLAIR TEXTILE LUBRICANTS

SAVE WEAR AND REPLACEMENTS

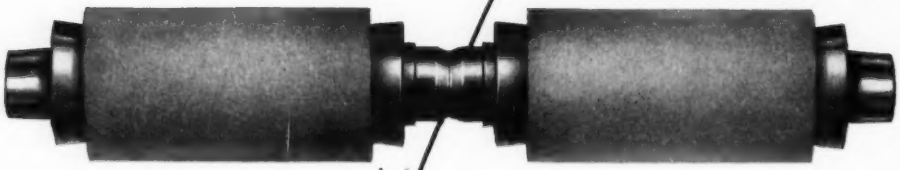
For more information, write direct or use Reader Service post card.

MORE THAN 100,000

SACO-LOWELL-TORRINGTON

S-L-T NEEDLE BEARING TOP ROLLS

are saving time formerly required for ROLL PICKING... up to 40% and 50%!



These figures are reported by mills * that are noted for their efficient, capable management — and the remarkably high quality of their products.

Roll picking is very costly. S-L-T Top Rolls *eliminate half the time* formerly required, because:

1. The smooth finish of the exposed metallic portions of the roll shed lint *almost automatically;* and
2. Sealed-in lubrication means that there is no surface oil to collect lint or dust.

Write for illustrated folder which gives complete data on the many features of S-L-T Top Rolls for roving and spinning. Address our nearest Sales Office.

Your frames are clean, your yarn is clean.

S-L-T TOP ROLLS are standard equipment on the new

SACO-LOWELL **GWALTNEY** SPINNING FRAME

* Names on request.

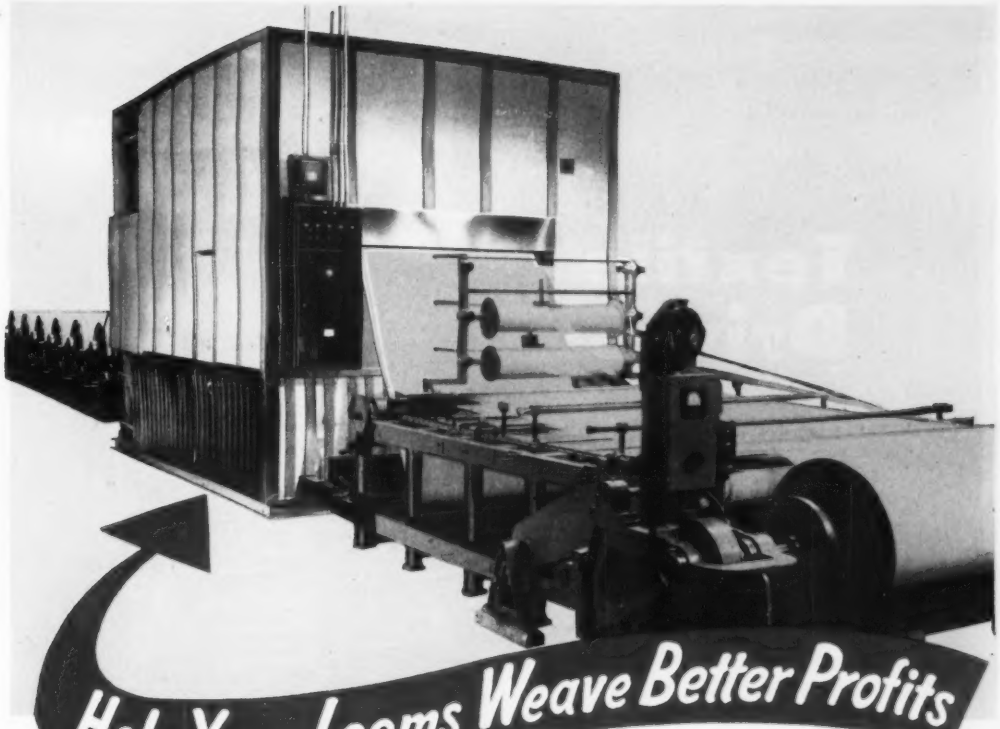
S-L-T- TOP ROLLS are manufactured by THE TORRINGTON COMPANY, Torrington, Conn., and are available exclusively through

SACO-LOWELL

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD, MAINE and SANFORD, N. C.

SALES OFFICES CHARLOTTE • GREENVILLE • ATLANTA



Help Your Looms Weave Better Profits

with Uxbridge *Gentle-Air* Warp Drying

Our Gentle-Air Slasher Drying units give considerably greater production than the various types of cylinder machines they are replacing in many mills.

Drying is done by passing heated air gently through the yarn — completely eliminating cans and thus reducing explosion hazards to a minimum. Since yarn is 60% to 70% dry before any contact is made with rollers inside drying box, roll laps are practically non-existent. Yarn remains soft and round, resulting in more perfect fabrics, greatly reduced occurrence of profit-devouring seconds.

These revolutionary Gentle-Air fast drying units will operate in conjunction with the front and back ends of any conventional slasher — new or old. Have us send you descriptive bulletins, without obligation.

SEND FOR:
Bulletin A: Maximum Production Model, up to 1250 lbs. per hr.
Bulletin B: Normal Production Model, up to 750 lbs. per hr.

AT YOUR SERVICE. Our Engineering Department at Uxbridge will gladly study your slasher room problems, and consult on ways to increase and improve production — at no obligation to you. We guarantee there will be *no sales follow-up* unless you specifically request it.

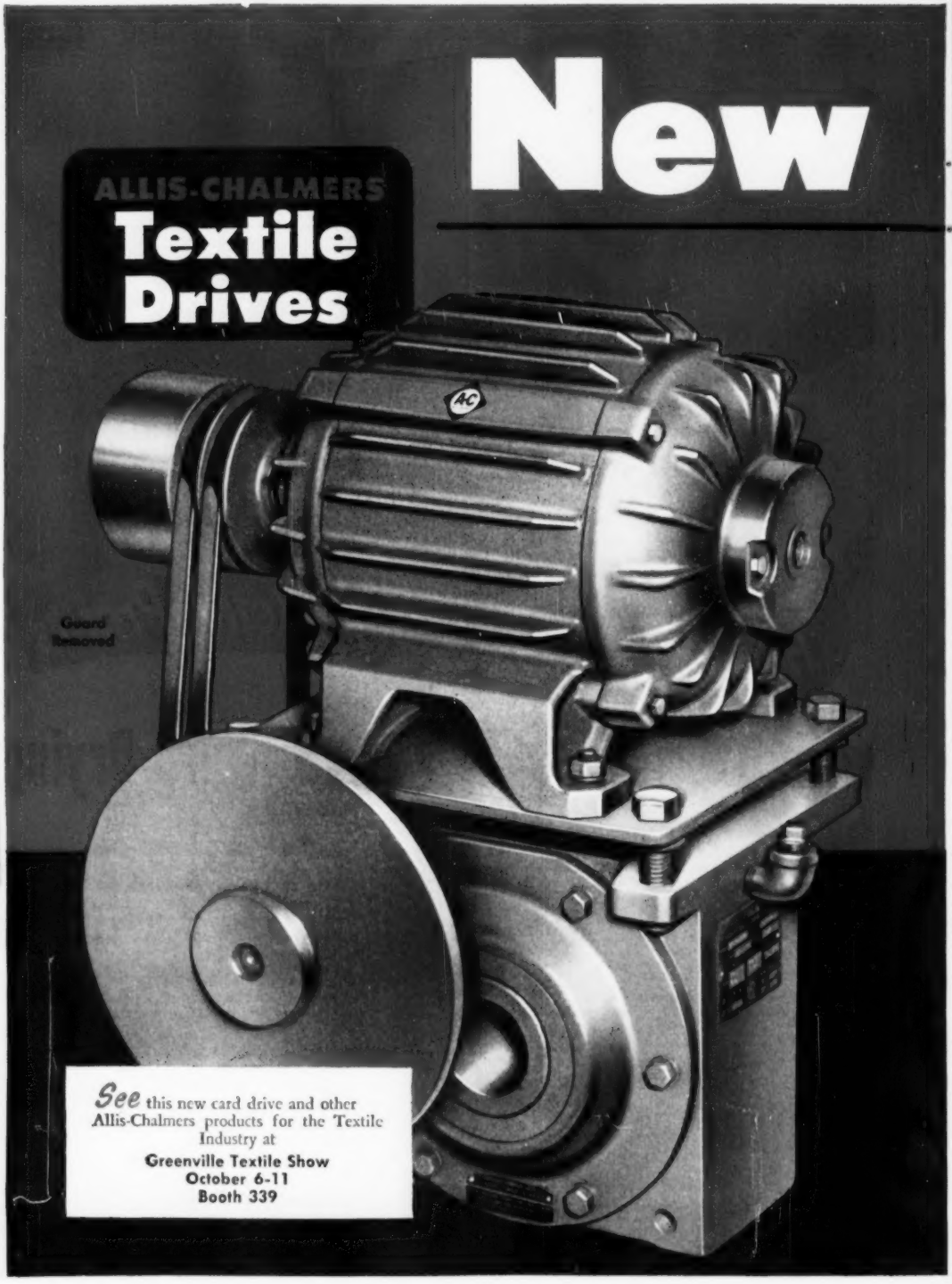
Just notify us to have an Engineer call at your convenience.

BACHMANN UXBRIDGE WORSTED CORPORATION
UXBRIDGE, MASSACHUSETTS

Representatives:
South—Ira L. Griffin and Son, P. O. Box 1376, Charlotte 1, N. C.
New England & Canada—James H. White, 40 Crystal Ave., Derry, N. H.
South America—Quimanil S/A, Anilines Representacoes Matriz, Sao Paulo, Brazil

More warps & Better warps

Visit us at Booth #501 SOUTHERN TEXTILE EXPOSITION Greenville, S. C.


New
ALLIS-CHALMERS
Textile
Drives
Guard
Removed
See this new card drive and other
Allis-Chalmers products for the Textile
Industry at
Greenville Textile Show
October 6-11
Booth 339

CARD DRIVE

Compact

Requires practically the same floor space as an overhead belt drive. Drive is mounted directly on card shaft with torque arm to keep it in position. No strain on card arch to cause vibration or distortion.

Reduces Maintenance Costs

No heavy, expensive belts to wear out. No periodic belt dressing. Each machine can be shut down independently for maintenance or changeover instead of a whole bay. Vibrationless drive increases life of all parts and makes machine easier to keep in adjustment.

Cleaner Operation

No sticky belt dressing to catch dirt. Won't throw oil and dirt into material to cause low quality goods or rejects.

Uniform Speed

Drive unit locked tightly to shaft. No slip to cause speed variations and low quality product.

Safer

No belt to catch hands or clothing, especially during grinding and cleanout.

ARE YOU STILL USING OVERHEAD BELT DRIVES on your cards because no one has come out with a good card drive that can be installed at a reasonable price? Well, here is the card drive you have been looking for.

You don't have to move your cards to install this drive. It will fit in the same space as your present drive. And it's easy to install. Simply fit the Falk gear reducer on the shaft and attach a torque arm to keep it in position. Stripping procedures are almost the same as with your present drive. The savings in lower maintenance costs, more production and higher quality goods will soon more than pay for the new drive.

Think how much neater, lighter and more efficient your plant will be, too, without that forest of shafting and belting hanging from the ceiling. Ask the Allis-Chalmers representative to show you what new card drives will do for your mill. Or write Allis-Chalmers, Milwaukee 1, Wis., and ask for Bulletin 51B7867.

A-3787

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Send for Free Engineering Literature

Quick-Clean Textile Motors - 51B6055
Texrope Drives - - - - - 20B6051
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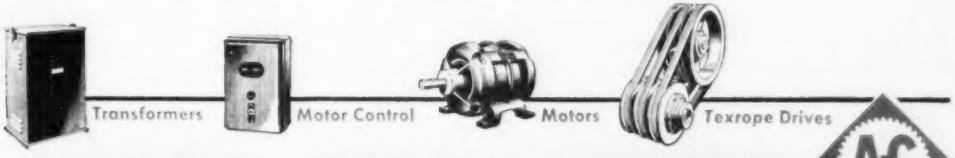
COMPLETE SERVICE — from power line to machine



ALLIS-CHALMERS

Originator of the Multiple V-Belt Drive for the Textile Industry

For more information, write direct or use Reader Service post card.

What's U. S. Rubber doing with spooler sleeves?

Making them of Uscolite, the rubber plastic. This minimizes creel breaks on the warper, thereby preventing wild yarn and knots from occurring in the twister beams and slasher beams, saving time and work.

This remarkable material is exceptionally long-lived and has excellent resistance to chipping around the edges. Uscolite Spooler sleeves are available in both Type A and Type C sizes for Barber Colman spoolers—in 3 colors—blue, gray, brown.

U. S. Rubber's line of textile mill specialties is the largest and most extensive in the industry. The use of these textile specialties *reduces* cost, *increases* product quality. Write for full information without delay to address below.

PRODUCT OF U.S.RUBBER SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY

MECHANICAL GOODS DIVISION • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

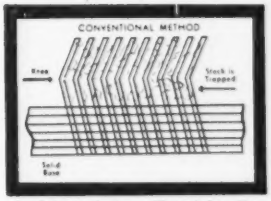
For more information, write direct or use Reader Service post card.

Booth

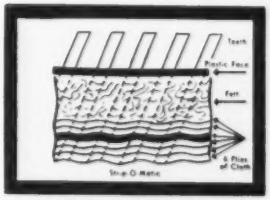
Originators of **STRIP-O-MATIC** ®

CARD CLOTHING NEWS AND VIEWS

STRIP-O-MATIC CARD CLOTHING SAVES TIME, MONEY AND LABOR FOR CARDING ALL TEXTILE FIBERS



Bend in teeth traps fibers below the knee of the teeth.



Straight Teeth aids the stripping action. Fibers cannot be trapped.

WOOL Nearly five years of continuous experience on several hundred installations have shown that STRIP-O-MATIC is ideal for the carding of wool. Users report up to 600% increase in the length of runs between stripping, great reduction in stripping waste, consequent savings in fiber and in the elimination of lost time for stripping.

SYNTHETICS Many mills on both cotton and wool systems running synthetics, have been using STRIP-O-MATIC successfully ever since its introduction. Results here have been even more spectacular than in the wool field. Users have enjoyed continuous runs on three shift operation up to 9 months without stripping and at the end of this period, found that there was absolutely no accumulation of stock on the face of the clothing and that no stock had been lost as stripping waste. Conventional clothing running the same fibers was stripped every one to three weeks depending on the staple length and the number of shifts of operation.

COTTON Cotton mills, too, are finding greater benefits in carding with the new STRIP-O-MATIC card clothing designed especially for cotton. Equipped with this clothing, carders increased their runs between stripping from three to more than ten times the best obtained with conventional clothing. A number of users who formerly stripped every two to four hours are finding that their time between stripping has increased up to 120 hours. (With continuous stripping, runs to 5 weeks are possible.)

BLENDS STRIP-O-MATIC card clothing is especially adapted to blends of cotton, wool and synthetics, as in addition to carding better with less down time, STRIP-O-MATIC handles the fibers as they come, maintaining the exact proportion that you plan for the yarn, not removing one fiber selectively as is occasionally done with conventional clothing.

INSTALLATION SERVICE FOR COTTON CARDS

Now for the first time, the Benjamin Booth Company announces a brand new service. A full time Booth specialist, in the application of card clothing will install STRIP-O-MATIC in your plant, on your cards. He remains with you through the first operating runs, sees that you are getting the best from STRIP-O-MATIC, shows you how to test and check it frequently. This service, available now in North and South Carolina, will soon be available in other areas throughout the country.

Consult Booth today and learn how this service can help you achieve better carding for less money.

E. Allen Snape Jr

PRESIDENT

SOUTHERN TEXTILE EXPOSITION EXHIBIT, #114

Booth

BENJAMIN BOOTH CO. *ALLEGHENY AVE. & JANNEY ST., PHILA. 34, PA.*

WHAT *Life-Lines* REALLY DELIVER IS MORE SERVICE...LESS SERVICING

The way to lick lint and dust is to keep it out!

And here's a drive team that really keeps it out!

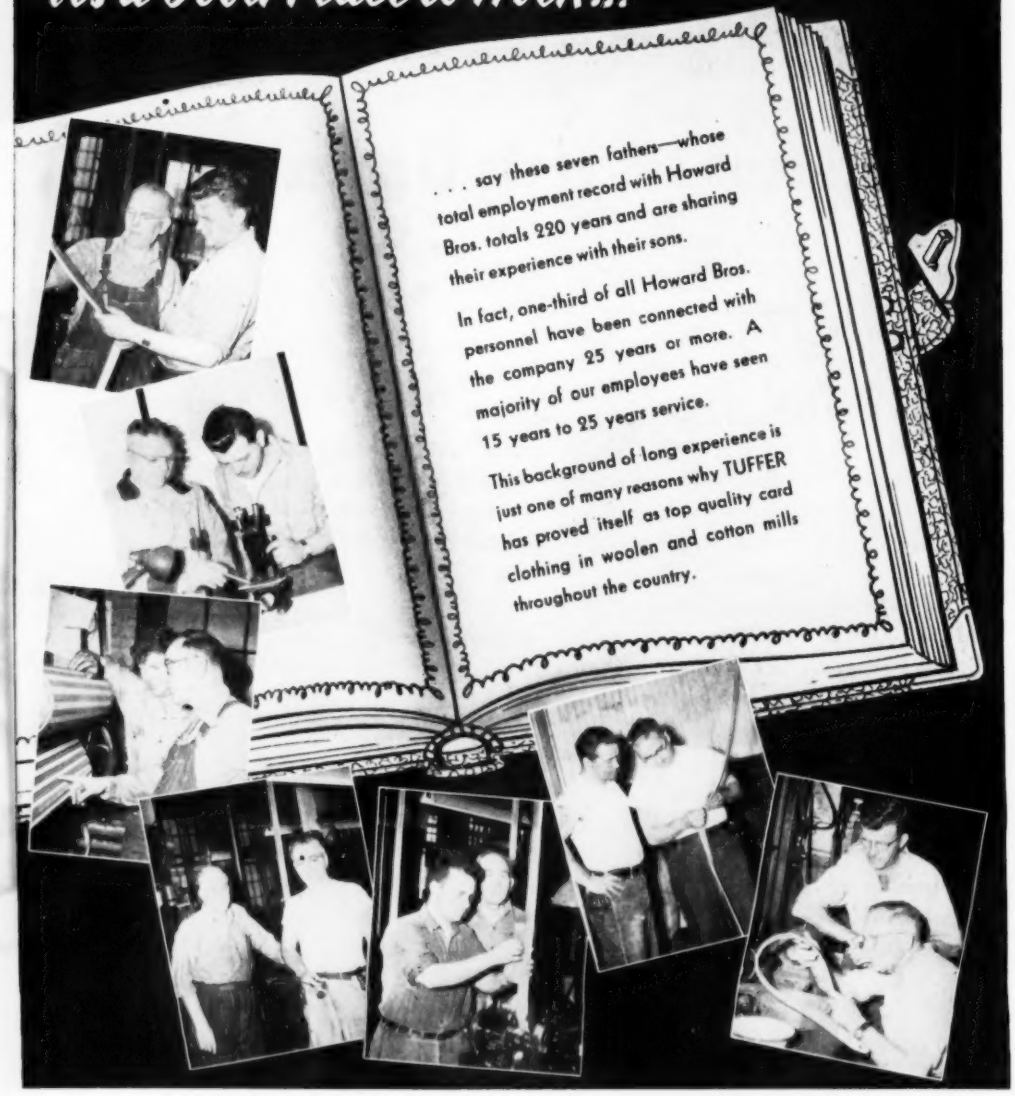
Look at the extra features of the Loom Motor Starter. A special neoprene gasket forms a positive, continuous seal between case and cover. Pressure from cover-retaining screw makes sure every crevice is filled with pliable neoprene. It's the only starter approved by the Associated Factory Mutual Fire Insurance Companies.

And check the extras on the totally enclosed Loom Motor, too. No chance for lint or dust to clog windings. Notice, too, there are no greasing nipples or cups on the motor. Pre-lubricated, factory-sealed bearings need no lubrication. Thus, outages from both lint clogging and improper lubrication are eliminated.

Together these two make the best drive team for your weave-room equipment. Maintenance has been practically engineered out. Ask your Westinghouse representative for a free copy of, "Motors and Controls in the Textile Industry". Thirty-six well-illustrated pages show how to overcome problems in drive selection. Ask for B-5422, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-21686

YOU CAN BE SURE...IF IT'S
Westinghouse
Life-Line
MOTORS and CONTROLS

"It's a Good Place to Work..."


. . . say these seven fathers—whose total employment record with Howard Bros. totals 220 years and are sharing their experience with their sons.
In fact, one-third of all Howard Bros. personnel have been connected with the company 25 years or more. A majority of our employees have seen 15 years to 25 years service.
This background of long experience is just one of many reasons why TUFFER has proved itself as top quality card clothing in woolen and cotton mills throughout the country.

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Georgia and Gastonia, N. C. **Branch:** Philadelphia, Pa.

Direct Representation in Canada

A-4

Visit our booth at Sections 245-46, Southern Textile Exposition, Greenville, South Carolina, October 6-11

. . . IT PAYS TO SPECIFY **TUFFER** CARD CLOTHING

Staley will have the welcome mat out for you at the

Leading textile companies in ever-increasing numbers look to Staley as a dependable source of supply. Your local Staley representative is ready to show you the many advantages of dealing with Staley . . . see him at the show!

PRODUCTS FROM CORN

Staley's®

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FLOW STEEL RECONDITIONED TOP ROLLS

. . . IN THE NATION'S LEADING TEXTILE MILLS

SELECTO-SPEED FLYER BALANCING

. . . strikes a death blow at the wear and expense caused by vibrating flyers. Flyers Selecto-Speed Balanced by Ideal at the exact running speed specified by your mill, operate super-smoothly. By having *every* flyer balanced at the speed of the frame, you prolong the life of numerous vital roving frame parts . . . and increase yarn production and quality.

RCK FLYER FINISH

. . . Ideal's glossy, black RCK flyer finish gives mill men three important savings: (1) enduring rust resistance, with no peeling or scaling; (2) reduction of employee fatigue, afforded by the eye-saving contrast of black flyer against white roving; (3) extra flyer rigidity, to resist "flyer collision" at high speeds.

IDEAL SAVINGS *Stand Out!*

FLOW-STEEL RECONDITIONED TOP ROLLS

. . . keep oil in your top rolls and *off* your yarn. The oil-retaining metal built into bearing spots by Ideal's Flow-Steel method eliminates the necessity of daily or weekly oilings . . . saves labor, saves oil, saves parts. Seconds due to oil spotting are nil. Wear resistance is also greatly increased by the cushioning action of Flow-Steel metal against cast iron at bearing spots.

RCK PRESSERS

. . . top quality, guaranteed pressers at a money-saving price . . . manufactured and tested for perfect balance and scientific weight distribution, to maintain proper tautness and overcome the tendency to "fling out" or "rough up" roving. Available in Ideal's famous rust-resistant RCK black finish. Mills often save money, too, on Ideal's quick delivery.

SELECTO-SPEED BALANCING AND RCK FINISH FOR FLYERS

RCK PRESSERS

Write us for your copy of the booklet "Facts About Your Flyers and Spindles."

IDEAL MACHINE SHOPS, INC.

Phones 4161 and 4391

BESSEMER CITY, NORTH CAROLINA

28TH YEAR OF CONTINUOUS SERVICE TO TEXTILE MILLS

at DAN RIVER MILLS

one of the world's largest single unit textile plants—

JENKINS VALVES are standard equipment

Dan River Mills' slogan is "First in Fashion — Foremost in Research". In applying modern methods to the development of better fabrics, Dan River engineers must necessarily maintain the highest efficiency in all mill operations, from fiber preparation to fabric finishing. This, in turn, dictates an exacting selection of all operating equipment.

The decision to standardize on Jenkins Valves was made only after careful comparison of performance in all types of services, and of maintenance expense.

This confidence in the *extra measure* of efficiency and economy provided by Jenkins Valves is shared by plant operating managements in every type of industry.

Despite this extra value, *you pay no more* for Jenkins Valves. For new installations, for all replacements, let the Jenkins Diamond be your guide to lasting valve economy. Jenkins Bros., 100 Park Ave., New York 17. Jenkins Bros., Ltd., Montreal.

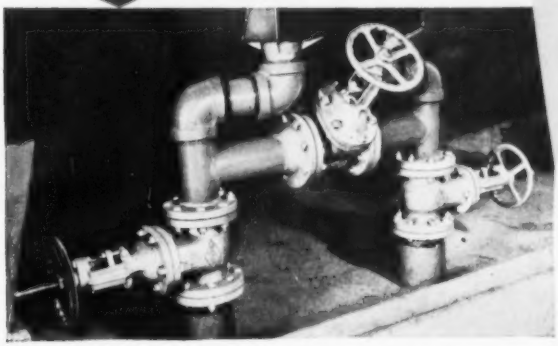
JENKINS VALVES

LOOK FOR THE DIAMOND MARK

SINCE 1864

TRADE JENKINS MARK

Jenkins Bros



◀In Dan River Mills' 100 acres of floor space, a vast network of pipelines requires all types of bronze, iron, and stainless steel valves for control of steam, water, air and sanitation. Jenkins Iron Valves controlling steam supply to finishing equipment are shown here.

For more information, write direct or use Reader Service post card.

Here it is—

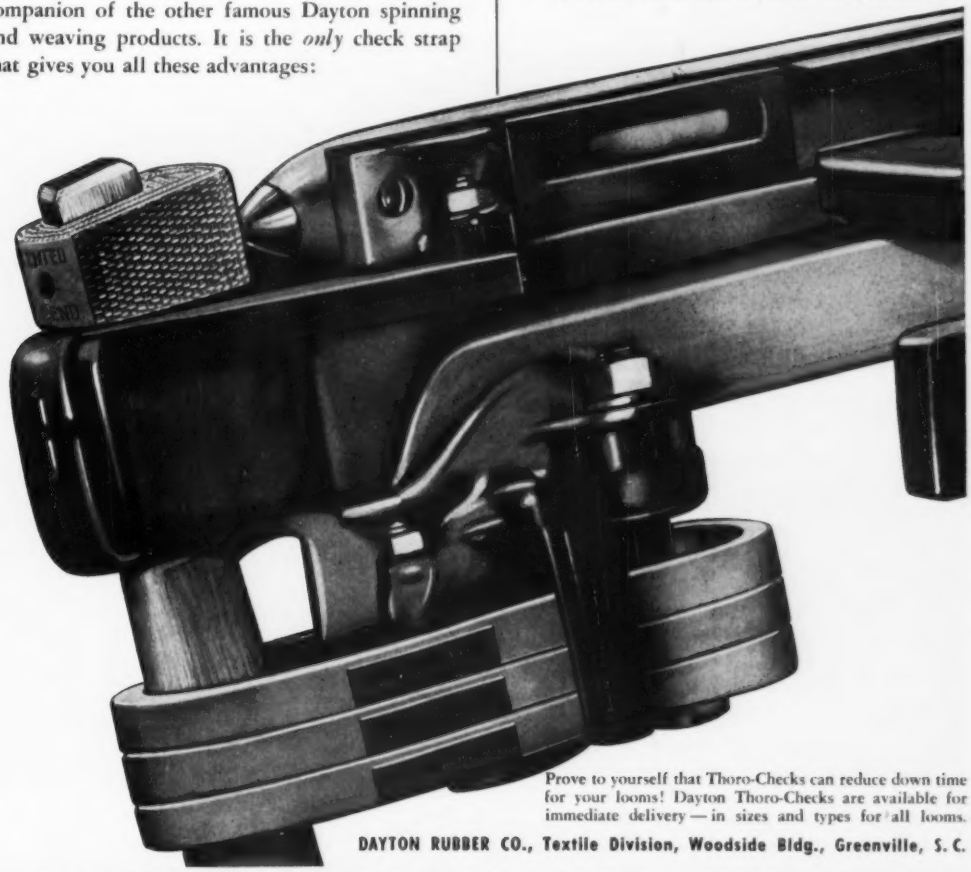
THE GREAT NEW DAYTON THORO-CHECK

Visit us at Booth No. 135, Southern Textile Exposition,
Greenville, S. C., October 6th-11th.

It's today's biggest news in weave rooms—a completely *new* check strap, with all the long-life features you'd expect from the makers of the famous Dayco Cot . . . Dayco Long Draft Apron . . . Dayton Thorobred Pickers . . . Thorobred Lug Straps! Scientifically designed to provide properly cushioned snubbing action, the Dayton Thoro-Check gives maximum protection to shuttle, binder, picker, and picker stick. How does it *wear?* Actual weave room use shows it outlasts other check straps by 25% to 50%!

Yes, the new Dayton Thoro-Check is a worthy companion of the other famous Dayton spinning and weaving products. It is the *only* check strap that gives you all these advantages:

- ***Gives greater picker and shuttle life***
- ***Protects binder and picker stick***
- ***Outlasts other check straps by 25% to 50%***
- ***Rubberized fabric construction — no elongation***
- ***Smoother checking — carefree operation***
- ***Unaffected by temperature or humidity***
- ***Individual or multiple replacement***
- ***Famous Dayton precision construction***
- ***Proved by more than a year of weave room use***



Prove to yourself that Thoro-Checks can reduce down time for your looms! Dayton Thoro-Checks are available for immediate delivery — in sizes and types for all looms.

DAYTON RUBBER CO., Textile Division, Woodside Bldg., Greenville, S. C.

TEXTILE PRODUCTS FOR BETTER SPINNING AND WEAVING

Dayton Rubber

Since 1905

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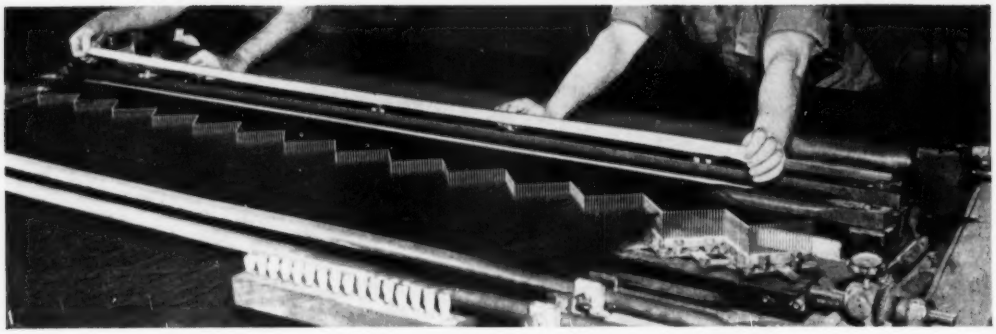
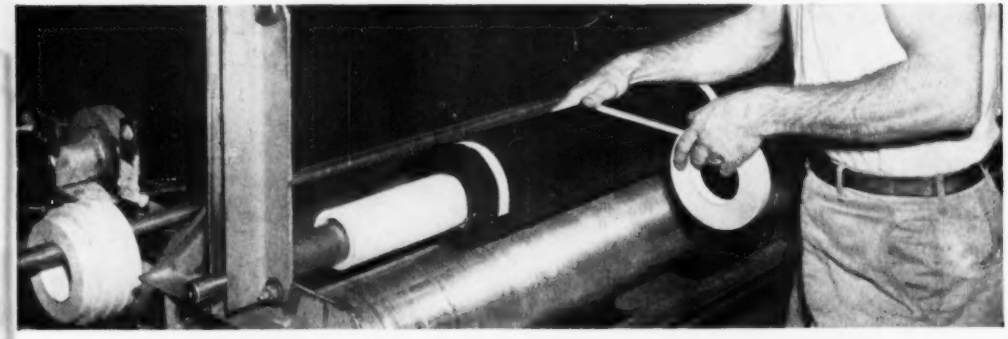
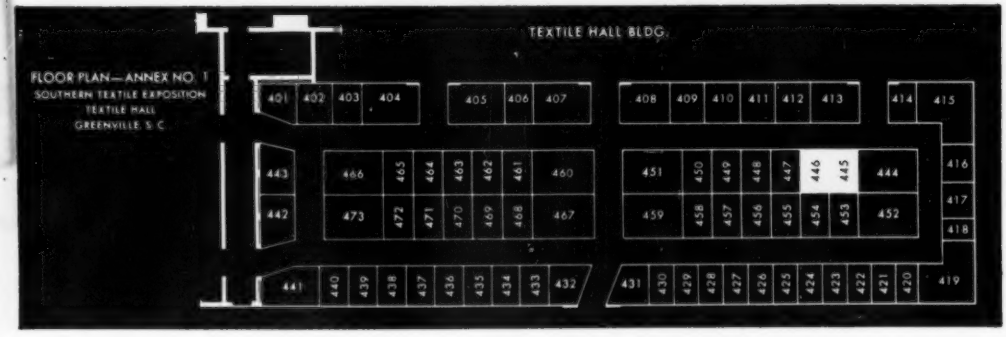


See the "Scotch" Textile Tapes that speed warping...



See the "Scotch" Textile Tapes that speed tabbing...



at the Southern Textile Exposition coming!

Look for us in Booths 445-446 from October 6th through October 11th! We'll show you new ways to save with "Scotch" Textile Tapes—the most complete line of pressure-sensitive tapes in the industry!

SCOTCH BRAND Textile Tapes

3M COMPANY

The term "SCOTCH" and the plaid design are registered trademarks for the more than 200 pressure-sensitive adhesive tapes made in U.S.A. by MINNESOTA MINING & MFG. CO., St. Paul 6, Minn.—also makers of "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: 122 E. 42nd St., New York 17, N.Y. In Canada: London, Ont., Can.

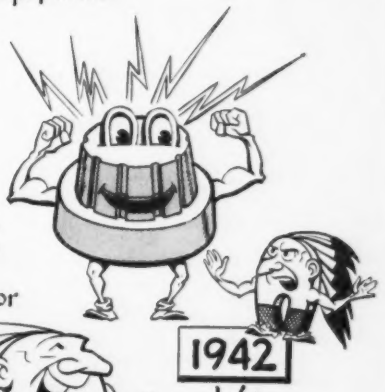
ERIEZ MAGNETIC ATTRACTIONS

MR. T.I.

ERIEZ MANUFACTURING CO., ERIE, PA., U.S.A. • PRODUCERS OF MAGNETIC SEPARATORS

WHY YOUR TEXTILE PRODUCTS NEED MAGNETIC PROTECTION

This is the subject of a new 6-page, 2-color bulletin offered by *ERIEZ* Manufacturing Company. Stop in at the big *ERIEZ* Booth No. 104 during the 17th Southern Textile Exposition in Greenville, South Carolina, October 6 through 11, for your free copy, or mail the coupon below. It is complete with descriptions and installation drawings of all *ERIEZ* magnetic equipment.



IT'S A FACT... ten years ago ten electromagnets were sold to every one permanent magnet. Today thanks to ***ERIEZ***, the pioneer and biggest factor in permanent magnetic separators, the ***RATIO IS REVERSED!***

ERIEZ SPIKED APRON MAGNET is tough on metal entering waste products at the United Waste Company. Since installing ***SPIKE***, fires due to sparks from tramp iron have been virtually eliminated ... garnett clothing life has been extended five times beyond previous limits!

ERIEZ Manufacturing Company, 501 East 12TH St., Erie, Pa.

My Contamination or Separation Problem is: _____

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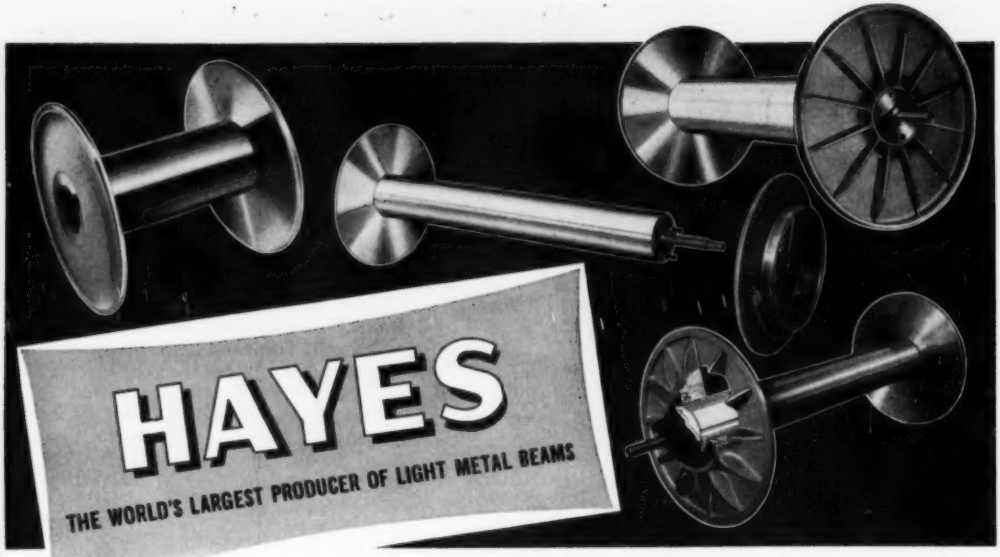
Please Send Me the *FREE* Textile Bulletin

Name _____ Title _____

Company Name _____

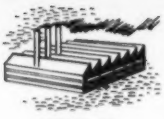
Street _____

City _____ Zone _____ State _____ S2-1



offers you . . .

SKILLED DESIGNING TALENT



MODERN PRODUCTION FACILITIES

PRACTICAL FABRICATING EXPERIENCE

For many years Hayes Industries has manufactured light weight metal parts for the aircraft industry where advanced manufacturing techniques and exacting precision standards must be maintained. Long experience in fabricating aluminum and magnesium parts has been instrumental in helping to produce textile beams that are light in weight, true running and perfectly balanced. Hayes Light Metal Beams have combined correct design and advanced manufacturing techniques to give you working surfaces that are machined to precise limits permitting sustained production. These working surfaces are perfectly smooth, splinter free and rust proof, requiring practically no maintenance, producing better selvages and reducing rejects to a minimum. Hayes Beams can be taken apart for replacement of damaged parts. Through long and intimate association with the textile industry, Hayes has developed a skilled engineering staff whose services are available to help solve your individual problems.

HAYES MODERN PLANT FACILITIES PRODUCE

Light Metal Loom Beams
Light Metal Adjustable Loom Beams
Light Metal Section Beams
Light Metal Tricot Beams
Light Metal Replacement Loom Beam Barrels

Visit us at Booth 227, Textile Hall, SOUTHERN TEXTILE EXHIBITION

EASTERN REPRESENTATIVE
J. Paul Laird
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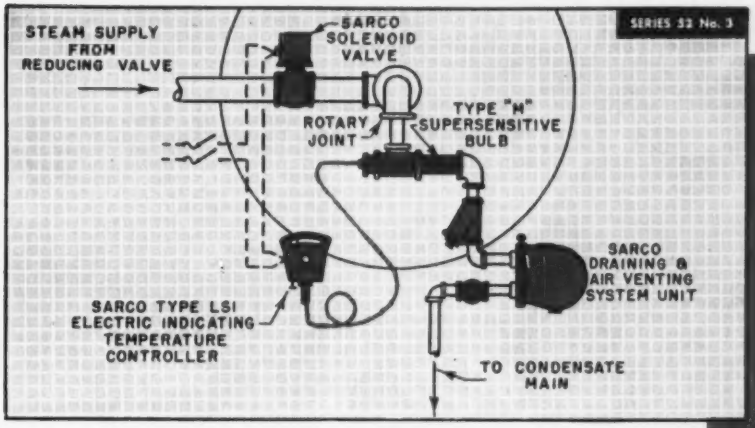
R. E. L. Holt Jr. & Assoc.
Greensboro, N. C.

HAYES INDUSTRIES, INC.,
JACKSON, MICHIGAN

This sketch shows temperature control applied to a Sarco Draining System for drying cylinders. The Sarco System assures rapid and continuous removal of condensate. The steam supply is controlled in accordance with load requirements.


SERIES 52 No. 3
STEAM SUPPLY FROM REDUCING VALVE
SARCO SOLENOID VALVE
ROTARY JOINT
TYPE "M" SUPERSENSITIVE BULB
SARCO DRAINING & AIR VENTING SYSTEM UNIT
SARCO TYPE LSI ELECTRIC INDICATING TEMPERATURE CONTROLLER
TO CONDENSATE MAIN

more production

from DRYING CYLINDERS and ROTARY DRYERS

The standard Sarco Draining and Air Venting System consists of a special float-thermostatic steam trap equipped with *steam lock release* and thermostatic air vent; an air collector pipe with an air vent on top; a strainer and a flow indicator.

IF YOUR DRYING OPERATIONS include steam heated drying cylinders or rotary dryers, this story is of vital interest to you!

More than one hundred actual installations made in the last two years in the textile, chemical and paper industries have demonstrated that:

1. *Warming-up time can be cut 10-25%*
2. *Production can be increased 15% or more*
3. *Considerable steam can be saved at the same time by installing the*

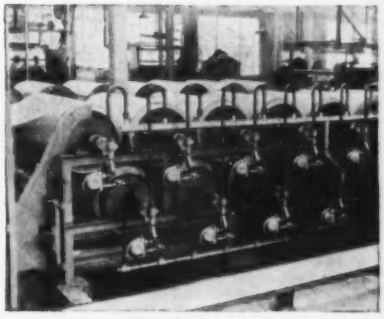
Sarco Draining and Air Venting System

This System has finally solved the vexing problem of traps locked by steam in the syphon pipes and discharge joints from the cylinder to the steam trap.

Continuous discharge of condensate as fast as formed, plus very rapid purging of air assure more evenly heated drying surfaces—with less steam consumption.

Write for the Technical Bulletins for your industry.

SARCO COMPANY, INC.
Empire State Bldg., New York 1, N. Y.
REPRESENTED IN PRINCIPAL CITIES
Sarco Canada Ltd., Toronto 8, Ont.



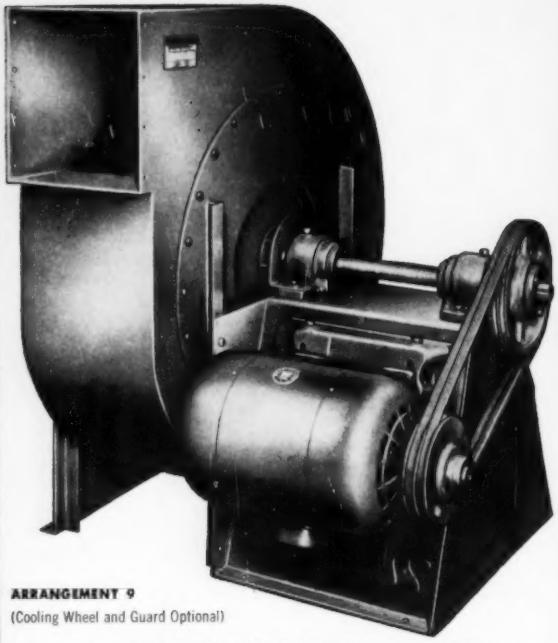
Special Sarco Float-Thermostatic Steam Traps equipped with *steam lock release* and sight glass as used on drying cylinders and rotary dryers in the textile, chemical and paper industries.

SARCO [redacted]
improves product quality and output

401

ANOTHER NEW STURTEVANT DEVELOPMENT!

YOU CAN'T

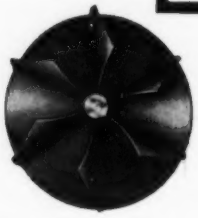


ARRANGEMENT 9
(Cooling Wheel and Guard Optional)

The new Sturtevant Industrial Fan is available in four standard arrangements and a choice of three wheel types. It can be furnished for chain or belt drive as well as direct-connected motor drive.

FOR EXHAUSTING
The Air Handling Wheel, with its backwardly inclined blades, gives you the highest operating efficiencies on the market today for general industrial air handling. It is particularly suitable for exhausting smoke, fumes, gases and light dusts from industrial processes as well as for oven circulation, heat treating and drying applications. Power consumption is low over a wide range of volumes and pressures.

FOR MATERIAL HANDLING
The Material Handling Wheel is a heavy-duty, radial-bladed, side-plate type designed for general purpose material handling. It is especially applicable to grinding and buffing wheel exhaust systems, and for conveying such materials as sawdust, granular particles and chips. This wheel combines high fan efficiency with its material handling features.



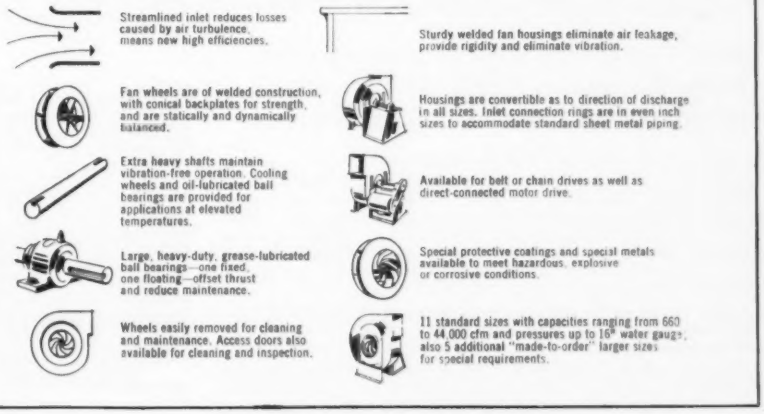
FOR SPECIAL APPLICATIONS
The Long Shavings Wheel is a material handling wheel without side plate. It has been designed particularly for those material handling jobs where long, stringy materials must pass through the fan.

BUY A BETTER
INDUSTRIAL FAN
to do all these jobs:

1. Handle Air, Exhaust Fumes, Gases, Smoke
2. Remove Metal Dust, Chips, Sawdust, Grains
3. Convey Long, Fibrous Materials

Never before have you been able to find the combination of ruggedness, flexibility and high efficiencies now available in this new Industrial Fan. It has been designed for hard work—and *performs* on rough, tough industrial air handling jobs. It will help you to reduce operating costs by eliminating the manual or mechanical handling of many types of materials. It will help you to eliminate hazards and improve working conditions by exhausting fumes, dusts and vapors and performing many similar applications—all with a minimum of maintenance.

Here are ten top features which mean high efficiency, flexibility, and long life:


Streamlined inlet reduces losses caused by air turbulence, means new high efficiencies.
Sturdy welded fan housings eliminate air leakage, provide rigidity and eliminate vibration.
Fan wheels are of welded construction, with conical backplates for strength, and are statically and dynamically balanced.
Housings are convertible as to direction of discharge in all sizes. Inlet connection rings are in even inch sizes to accommodate standard sheet metal piping.
Extra heavy shafts maintain vibration-free operation. Cooling wheels and oil-lubricated ball bearings are provided for applications at elevated temperatures.
Available for belt or chain drives as well as direct-connected motor drive.
Large, heavy-duty, grease-lubricated ball bearings—one fixed, one floating—offset thrust and reduce maintenance.
Special protective coatings and special metals available to meet hazardous, explosive or corrosive conditions.
Wheels easily removed for cleaning and maintenance. Access doors also available for cleaning and inspection.
11 standard sizes with capacities ranging from 660 to 44,000 cfm and pressures up to 16" water gauge, also 5 additional "made-to-order" larger sizes for special requirements.

CERTIFIED RATINGS

Certified ratings are the result of tests made by the Manufacturer in accordance with the Standard Test Code for Centrifugal, Axial, and Propeller Fans adopted jointly by the National Association of Fan Manufacturers and the American Society of Heating and Ventilating Engineers.

AUTHORIZED BY N A F M

© NATIONAL ASSOCIATION OF FAN MFRS.

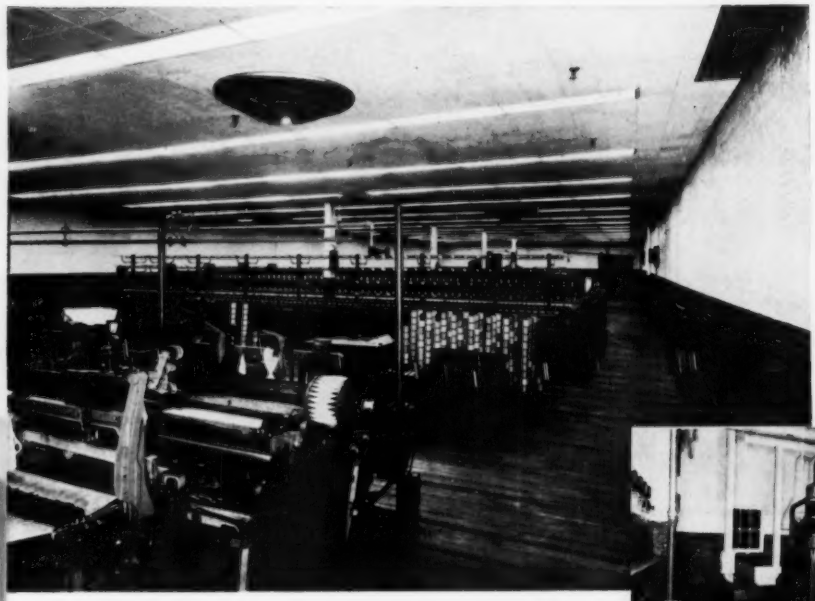
These Fans are certified under the NAFM Standard Test Code and carry the NAFM Certified Ratings Label.

Just off the press, Catalog 1150 gives you 60 pages of complete application information as well as performance and dimension tables for all sizes and wheel types. For your free copy, call your local Westinghouse-Sturtevant Office, or write Westinghouse Electric Corp., Sturtevant Division, Hyde Park, Boston 36, Mass.

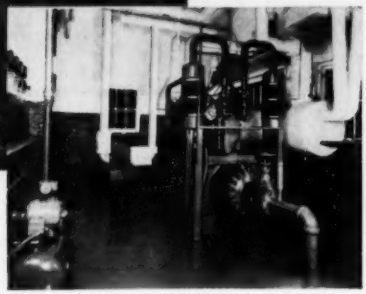
YOU CAN BE SURE... IF IT'S Westinghouse

AIR HANDLING

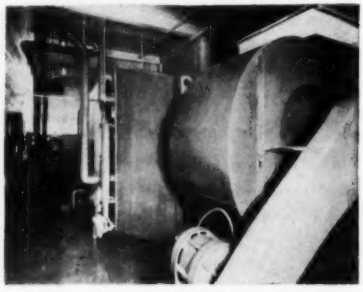
TUNE IN ON HISTORY! Only Westinghouse brings you complete coverage of political campaign over CBS television and radio.



Pilot Plant of Pepperell Manufacturing Company, Lindale, Ga.



At the heart of the pilot plant is this air conditioning equipment room — containing compressors, water chiller and cool water circulating pump.



Apparatus room contains air blower and washer

PEPPERELL'S PILOT PLANT

. . . synthetic fiber research at its best!

Amco Central Station Air Conditioning meets Pepperell's exacting specifications for control of temperature, humidity, air cleanliness.

When Pepperell Manufacturing Company built their "miniature mill" at Lindale, Georgia, they set out to produce a nearly perfect pilot plant for test operations with the newest synthetic textile fibers. To maintain complete atmospheric control the year-round, they had Amco install central station air conditioning with refrigeration and electrostatic air filtering. Accurate, adjustable control of temperature and humidity assures the exact conditions required for any given pilot operation. All ducts are hidden for neat appearance and easy housekeeping.

Of course, it isn't always practical, or desirable, to "streamline" a plant like this. Your plant — like many mills — may already have a modern, efficient humidification system. You can easily add COOLING with an Amco ductless system — without discarding anything, and by making only modest alterations.

Amco systems give you a choice of humidification, evaporative cooling (central station, dry duct, or ductless types) or refrigeration, alone or in combination. You can rely on Amco to give you advice on the system best suited to your needs. Call an Amco engineer.

Benefits of Controlled Humidification and Cooling

Regain maintained • yarn counts kept more even • static electricity eliminated • closer machine adjustments and higher speed maintained • less broken fibers, dust and fly • cleaner yarns • stronger, more even fabrics • greater worker comfort and efficiency

AMCO

AIR CONDITIONING SYSTEMS since 1888

Humidification • Evaporative Cooling (Ductless or Central Station) • Refrigeration

AMERICAN MOISTENING COMPANY, PROVIDENCE, R. I. • ATLANTA • BOSTON • CAMDEN • CHARLOTTE • AFFILIATED WITH GRINNELL COMPANY, INC.

Photographs taken in 1/20,000 second on a Draper X2 Loom at 175 picks per minute.

PICKMASTER Leather Pickers are available in the standard sizes required for Draper and Crompton & Knowles Looms.

Split-second follow-thru

PICKMASTER® Leather Pickers do not bounce the shuttle

CUT SHUTTLE COST
(No hot spurs)
STOP KINKY FILLING
(No shuttle-bounce)
REDUCE BANG-OFF
(Perfect boxing)
INCREASE PROFITS

CATALOG presents the complete line of Textile Leathers for weaving — also aprons and tapes. Ask for a copy — on your letterhead, please.

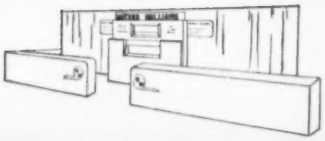
These "split-second" photographs prove that a Pickmaster Leather Picker *follows-thru* in a long, sweeping throw that sends the shuttle swiftly and smoothly into the other box. There, another Pickmaster catches it *without shuttle-bounce* — moves back with it *snug in the hole* to the end of the lay.

Pickmaster Leather Pickers do not retain and build up heat; do not catch fine filament.

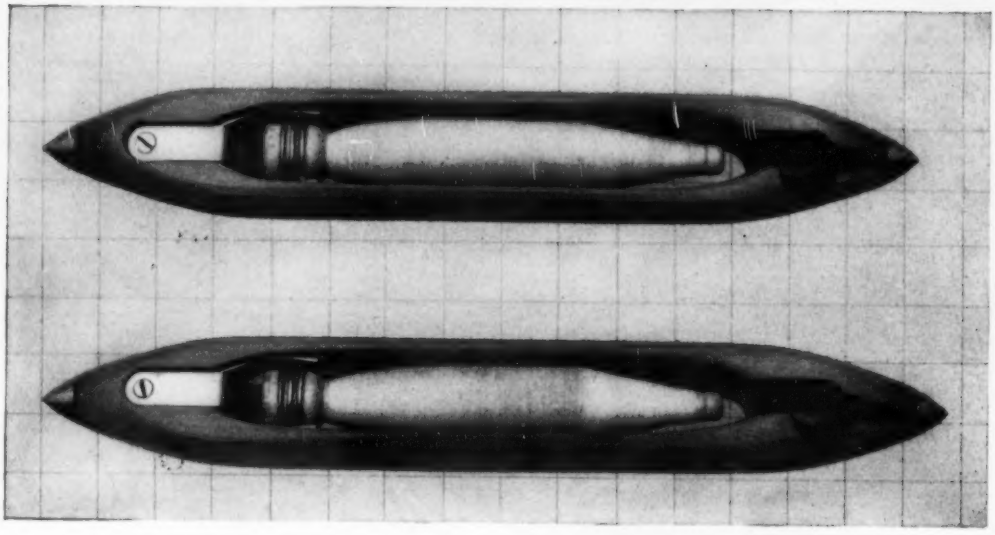
Follow-thru with Orange Line Loom Leathers. More than 50 types are available to help loom tenders get more yardage with less waste and down-time.

second century G and K Orange® Line **Textile Leathers**

GRATON & KNIGHT COMPANY, Worcester 4, Mass. GRATON AND KNIGHT DIXIE **DIXIE LEATHER CORPORATION, Affiliate, Albany, Ga.**



Make your first stop at Booth 128 to see these NEW SHUTTLES FOR DRAPER LOOMS



Major shuttle improvements have long come from Watson-Williams. This time the Shuttle People are introducing two leaders in their field — **shuttles for Draper Looms, fitted with Cast Iron Eyes, to accommodate a longer filling package.**

One of them is 15¼" long, the other a standard 15¾" long. Both are equipped with 8" bobbins. The 15¼" length shuttle is designed to use a short eye to give longer bobbin length. A short eye can also be incorporated in shuttles of other lengths for Standard Draper Looms, and for C and K cotton looms to provide a maximum length bobbin.

Are you Getting the Tension Benefits of the Blanchard Adjusting Screw?

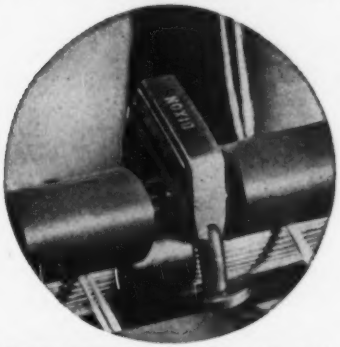
Tension stays where you want it, with this increasingly popular Quarter Turn Locked Adjusting Screw, a feature of most Watson-Williams Center and Rear Tension Eyes. Neither loom vibration nor shuttle handling can disturb the tension you set.

We're looking forward to your visit

Wilbur L. Watson, *President*
Hubert J. Watson, *Treasurer & Sales Manager*
Harold E. Goff, *Superintendent*
Raymond E. Norman, *Assistant Superintendent*
Arthur Bahan, *Southern Representative*
John Wyatt *of the Greensboro Office of Watson and Desmond, our Southern Selling Agents*
The staff of Watson and Desmond

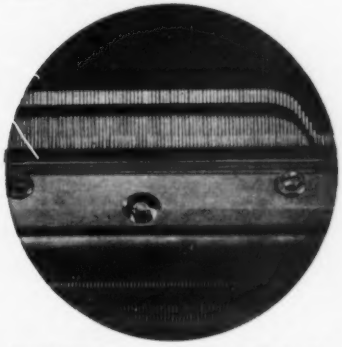
WATSON-WILLIAMS MFG. CO.
The Shuttle People
MILLBURY, MASSACHUSETTS

Textile machine parts of Du Pont nylon plastic



Drafting equipment parts molded of Du Pont nylon include saddle bearings on Saco-Lowell spinning frames. They need no lubrication... reduce cloth waste and maintenance costs. (Saddles made for Saco-Lowell by Dixon Lubricating Saddle Co.)

Thread guides such as this ring traveler need far less lubrication when molded of Du Pont nylon... provide more yardage on bobbins because of smoother operation...save production time... cut costs. (Traveler made by Clark Thread Co.)



Verge plate inserts molded of Du Pont nylon outlast those made of previous materials... provide a better cushion for sinker-backs... mean substantial savings in time and maintenance cost for hosiery manufacturers. (Used on Textile Machine Works' "Reading" full-fashioned knitting machine.)

need little or no lubrication... are light, tough, flexible... cut maintenance costs

A unique combination of superior performance and economy—that's the reason parts molded of Du Pont nylon are becoming standard equipment on more and more textile machines.

Nylon is tough, smooth, wear-resistant and unbreakable in normal usage. Because it is resilient, it absorbs shock loads and has low deformation under load. Nylon parts can be used continuously at temperatures up to 250°F. . . . are unharmed by oil or moisture. Used as a bearing material, nylon requires little or no lubrication . . . prevents costly damage to yarn and cloth. And its light weight (about ⅛ the weight of typical metals) and toughness in thin sections permit flexibility in design.

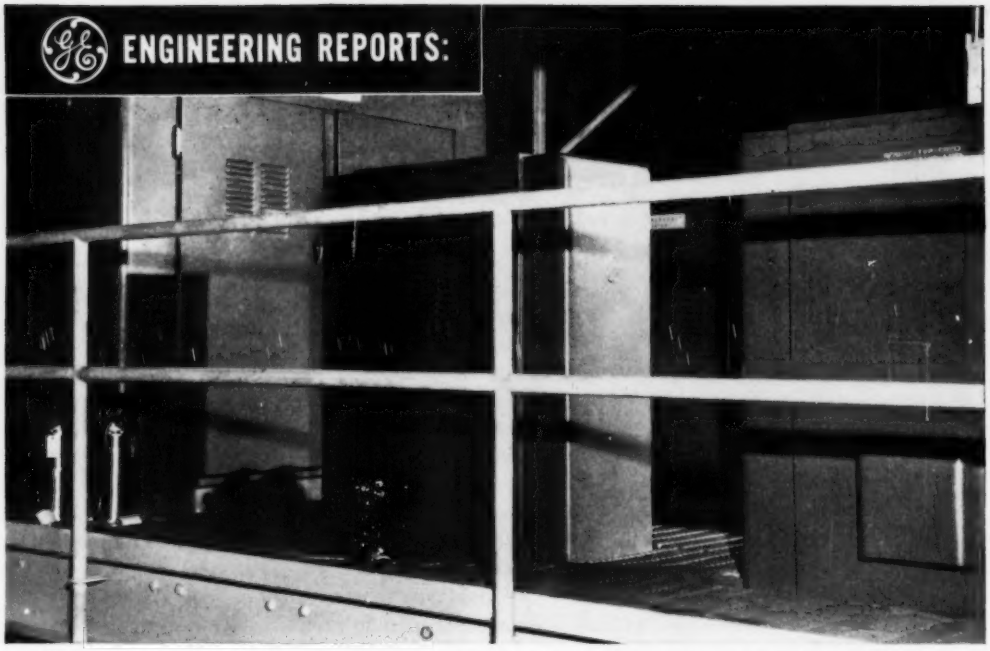
The examples illustrated here are just a few of the many nylon parts in use in the textile industry. Finger bearings, spindle bearings, condensers, and other machine parts molded of Du Pont nylon plastic have also proved superior in efficiency and economy.

Perhaps you can profit by using parts molded of Du Pont nylon. We'll gladly furnish the names of firms that supply mills with nylon parts . . . gladly assist you in developing new parts or improving present ones. For further information, write:

E. I. du Pont de Nemours & Co. (Inc.)
Polychemicals Department, District Offices:
350 Fifth Avenue, New York 1, New York
7 South Dearborn Street, Chicago 3, Illinois
845 East 60th Street, Los Angeles 1, California

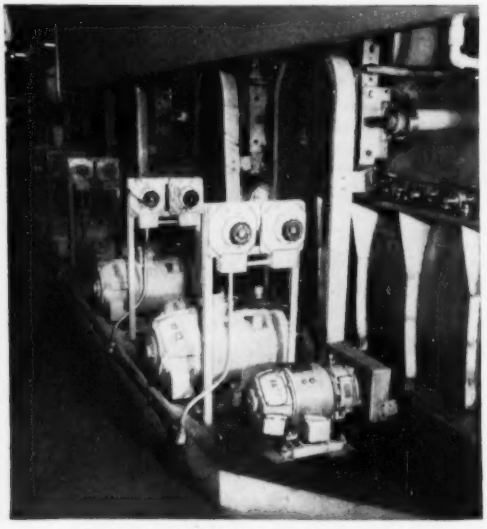
DU PONT
REG. U.S. PAT. OFF.
150th Anniversary
Better Things for Better Living
... through Chemistry
Polychemicals
DEPARTMENT
PLASTICS • CHEMICALS

ENGINEERING REPORTS:

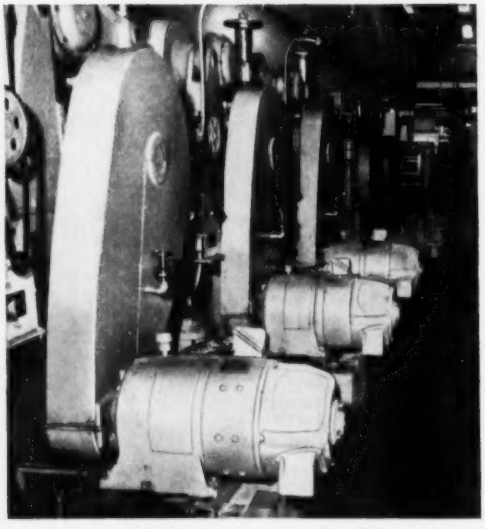


EASY-TO-INSTALL G-E Speed Variator power package can be located practically anywhere. At Delta Finishing Co., some are placed on a grid-floored balcony. Costly interwiring was eliminated—running in conduits was all that was needed.

New G-E packaged range drives



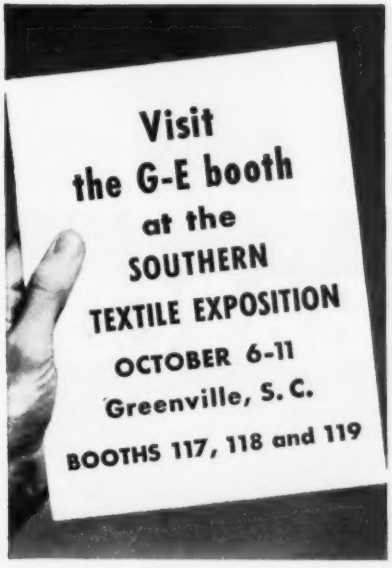
PRECISE SPEED ADJUSTMENT is provided in this scouring washer by individual G-E motor field rheostats.



CAREFUL CO-ORDINATION of four 10-hp G-E splashproof gear-motors keeps four-compartment washer in step.

COMPACT G-E Speed Variator power "packages" save floor space. The four units shown here contain all equipment necessary for powering several ranges at Delta Finishing. Note how compact design of units allows grouping in limited area.

make plant layout more flexible



Compact Packaged Power units at Delta Finishing Co. save space, cut installation costs

At the Delta Finishing Co. plant in Wallace, S. C. (division of J. P. Stevens & Co., Inc.) the wide variety of range layouts needed makes General Electric packaged drives especially valuable.

A de-sizer, a ten-beam boil-off, a scouring washer, a loop dryer, and a mercerizer washer, among others, are accurately co-ordinated by these adaptable multi-motor systems. Each drive frees important floor space—power units combine motor-generator set, exciter and control panel in single, compact "packages." No special foundation is needed. Units can be located anywhere.

Costs are lowered, too. Power units are mass-produced from standardized parts. Installation or relocation is simple—just set up the power "package," run in the conduit. Range layouts can be changed easily and quickly.

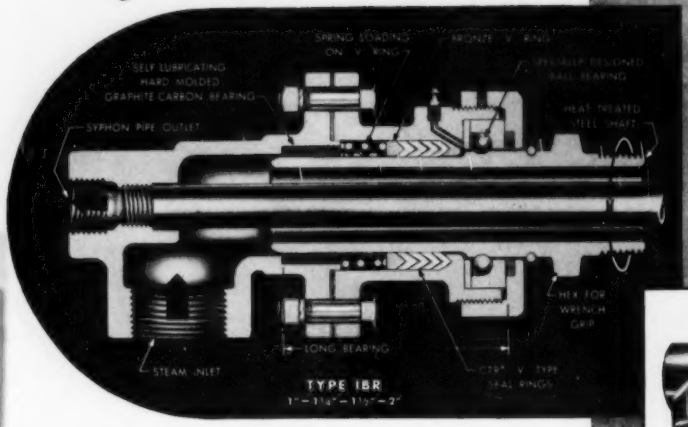
To learn more about range drives that give all the advantages of d-c speed control, ***plus*** the advantages of drive "packaging," call in your G-E textile-mill representative. General Electric Co., Schenectady, N.Y. 654-24

Engineered Electrical Systems for Textile Mills

GENERAL ELECTRIC

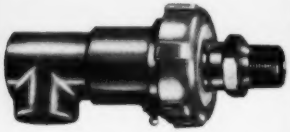
For more information, write direct or use Reader Service post card.

Better Temperature Control



THE IMPROVED

BARCO REVOLVING JOINT



TYPE IBRSA
½"—¾"

... less Maintenance!

■ Operating engineers throughout the country are reporting the benefits they receive from Barco's new *improved* Type IBR Revolving Joints. These are benefits that come from the *correctness* of Barco's design.

- **Better Temperature Control where steam is used for heating rolls due to better circulation.**
- **Free-Floating, Low Torque Installations.**
- **Ability to Withstand Vibration and Hard Usage.**
- **Up to 50% Power Savings.**
- **Exclusive "CTR" V-Type Seal Rings—*chemically inert.***
- **Low Maintenance; No Adjusting. Holds seal running or standing.**

Barco builds a complete line of standard revolving joints in sizes ranging from ½" to 2" and special in sizes to 5". Pressures to 250 psi, steam, or 1000 psi, hydraulic. Speeds to 2500 rpm. *Barco Engineers are at your service; ask for recommendations.*

BARCO MANUFACTURING CO.
1834 K Winnemac Ave., Chicago 40, Illinois
In Canada: The Holden Co., Ltd.

Syphon Style—TYPE IBR. Built for 450°F., steam service to 150 psi, and up to 500 RPM. Hydraulic service to 200 psi, 750 RPM. Higher pressure and speeds under certain conditions.

Single Flow Style—TYPE IBRSA. Similar to Type IBR. Sizes 1" and larger have 2-piece flange connected body.

For information about Barco Revolving Joints, ask for Bulletin 300.

BARCO

THE ONLY TRULY COMPLETE LINE OF FLEXIBLE BALL, SWIVEL, SWING AND REVOLVING JOINTS

WORLDWIDE SALES AND SERVICE

FREE ENTERPRISE—THE CORNERSTONE OF AMERICAN PROSPERITY

"Tycol Alweave cuts spindle drag... reduces thread breakage... jumps production"

Right! The stability and lubricating value of Tycol Alweave Spindle Oils assure minimum wear and low power consumption, all helping to step up production by reducing drag and thread breakage.

A wide range of Tycol Alweave Textile Oils is specially designed in both mineral and compounded grades to cut costs in other processes in your mill.

For further information about Tycol Alweave Textile Oils, write, wire or phone your nearest Tide Water Associated office today.

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Improve Quality . . . Boost Production . . . Slash Costs with

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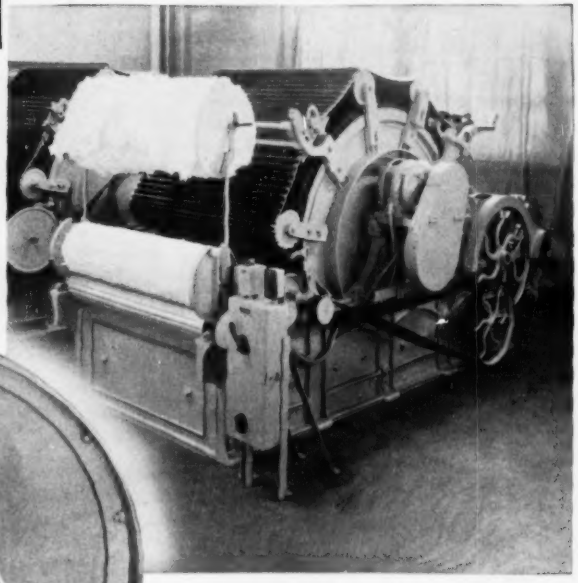
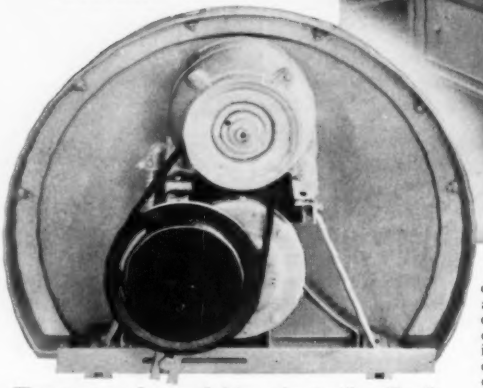
Individual Cotton Card Drives

Economical!
Compact!
Efficient!





These new, modern card drives give textile mills all the advantages of improved quality, increased production and reduced cost demanded by today's market. They make possible more efficient plant layout, better lighting, improved air conditioning and better all-around plant "housekeeping"—factors important in meeting current quality, production and cost standards.

Improved quality and increased production are made possible because these drives eliminate line shafting and permit a 20% variation in speed for each individual card. The elimination of line shafting and its attendant oil drip allows for better lighting and duct-type ventilation. Through the variable-speed feature, each card can be set at the precise speed for best quality at maximum production regardless of the fibres being processed.

First cost is low because the drives are simple, consisting of a single-reduction helical-gear unit, an adjustable-speed V-belt drive and a unique centrifugal clutch, all driven by a standard motor with standard controls. The entire drive is easy and inexpensive to install. The reduction unit mounts directly on the card cylinder shaft and the motor support is bolted to the card pedestal bearing. The entire drive nests compactly in the card arch with no floor obstructions and ample aisle clearance because the complete drive extends only 3¼" beyond the end of the shaft.

Get all the facts on the quality, production and cost advantages these modern Individual Card Drives offer. Write to American Pulley Company or drop in and see our booth at the Southern Textile Exposition.

You Are Cordially Invited to visit the

AMERICAN EXHIBIT

on the stage at the
SOUTHERN TEXTILE EXPOSITION
TEXTILE HALL, GREENVILLE, S.C.
October 6 to 11, 1952

Power Transmission by

AMERICAN PULLEY COMPANY

4226 Wissahickon Ave., Philadelphia 26, Pa.

Other products

Adjustable-Speed Sheaves
Solid and Split Shaft Collars
Steel Split Pulleys
Econ-O-Matic Motor Bases
Multiple-Groove Wedg-Tite Sheaves
Wedgbelts
Hi-Torque Motor Pulleys
Conveyor Pulleys

We'll be at Booth 262 to Greet You —

We've been answering many questions in an effort to help textile men improve their spinning and twisting of nylon, worsted, orlon, vicara, acrilon, wool, dacron, rayon, cotton, dynel, fiber glass, pure silk and others.

Let's discuss *your* problems during your stay at the Southern Textile Exposition in Greenville, S. C. The HERR CONICAL RINGS and specially-designed travelers will help you speed up production and improve quality . . . See you at Booth 262!

Hazell B. Attwood
Charles M. Kilpatrick

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MANUFACTURING CO., INC.

309 FRANKLIN STREET, BUFFALO 2, NEW YORK

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON AND BLENDED YARNS OF ALL TYPES

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Faultless

TEXTILE CASTERS

New drawn steel wheel with long-lasting double tread, round edges now available!

SNUG FITTING THREAD GUARD—*Saves Cleaning Costs*
STANDARDIZED BOLT HOLES—*Aid Installation and Servicing*
SHOCK AND RUSTPROOF FRAMES—*Give Longer Mileage*

For complete specifications see Faultless Catalog No. 156—call your distributor.

500 SERIES RIGID CASTER WITH PLASKITE WHEEL AND THREAD GUARD

Can be had with new Drawn Steel Wheel and Thread Guard

500 Series Casters are your assurance against interrupted production and lost motion. 4" and 5" sizes are recommended for Roving Box service. 3" and 4" sizes are for use on Doff Boxes.

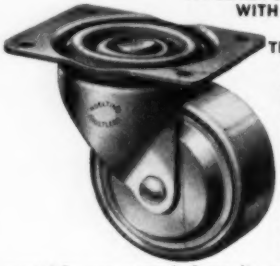
ROVING AND DOFF BOX CASTERS

with improved Thread Guard and Standardized, interchangeable Bolt Holes.

The Textile Industry has found in the 500 Series Truck Caster a combination of constructional features, workmanship and range of sizes which makes it ideal for Roving and Doff Box use. Choice of wheels to suit floor surface.

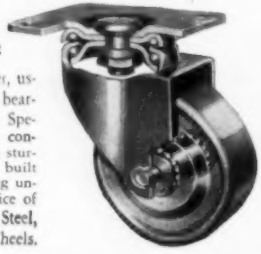
Style No.	Wheel Dia. & Face	Size of Plate	Overall Height	Load Cap. Each
DRAWN STEEL, BALL BEARING WHEEL				
504-4TG	4 x 1½	3⅛ x 6¼	5 5/16	400 lbs.
SEMI-STEEL, PLAIN BEARING WHEELS				
503-3TG	3 x 1¼	2½ x 4⅛	3⅛	275 lbs.
503-4ATG	4 x 1⅝	2½ x 4⅛	4 1/16	375 lbs.
503-4TG	4 x 1½	3⅛ x 6¼	5 5/16	400 lbs.
503-5ATG	5 x 1⅝	3⅛ x 6¼	5 13/16	500 lbs.
503-5TG	5 x 1⅝	3½ x 7¼	6 1/16	500 lbs.
PLASKITE, ROLLER BEARING WHEELS				
531-3TG	3 x 1¼	2½ x 4⅛	3⅛	275 lbs.
531-4TG	4 x 1⅝	3⅛ x 6¼	5 5/16	400 lbs.
531-5ATG	5 x 1⅝	3⅛ x 6¼	5 13/16	500 lbs.
531-5TG	5 x 1⅝	3½ x 7¼	6 1/16	500 lbs.
BRASS BUSHING RUBEREX WHEELS				
521-3TG	3 x 1¼	2½ x 4⅛	3⅛	200 lbs.
521-4ATG	4 x 1⅝	2½ x 4⅛	4 1/16	225 lbs.
521-4TG	4 x 1½	3⅛ x 6¼	5 5/16	250 lbs.
521-5ATG	5 x 1⅝	3⅛ x 6¼	5 13/16	300 lbs.
521-5TG	5 x 1½	3½ x 7¼	6 1/16	300 lbs.
ROLLER BEARING RUBEREX WHEELS				
523-4TG	4 x 1½	3⅛ x 6¼	5 5/16	250 lbs.
523-5TG	5 x 1½	3½ x 7¼	6 1/16	300 lbs.

100 SERIES SWIVEL CASTER WITH DRAWN STEEL WHEEL AND THREAD GUARD



This is the swivel type companion caster to the 500 Series illustrated above. For general use this sturdy caster is unsurpassed. Frame and top plate are made of extra heavy gauge steel. All parts deeply corrugated for extra strength. Large dia. raceway with hardened ball bearings. Can be had with new Drawn Steel Wheel in cadmium finish, Semi-steel, Ruberex or Plaskite Wheels. Wheel sizes and overall heights match the corresponding Series 500 casters.

1100 SERIES MEDIUM DUTY SWIVEL CASTER



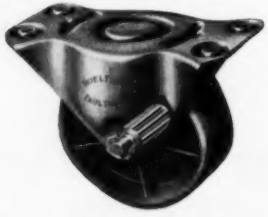
Two complete ball races, using best grade balls, all bearing surfaces hardened. Special take-up king pin construction, dust-proof. A sturdier and more stoutly built caster for easy swiveling under heavier loads. Choice of Drawn Steel, Semi-Steel, Plaskite or Ruberex Wheels.

2700 SERIES HEAVY DUTY RIGID CASTER

Companion to the 200 Series Swivel Caster, in kinds and sizes of wheels available. Heavy frame is deeply corrugated for extra strength. Choice of Semi-Steel, Ruberex or Plaskite Wheels.

200 SERIES HEAVY DUTY SWIVEL CASTER

Extra heavy pressed steel frame with *two* complete raceways, using best grade balls. All bearing surfaces hardened. Supplied with either plain bearing or roller bearing wheels. Lubricating axle bolt as standard. A fine construction that will give excellent service. Choice of Semi-Steel, Ruberex or Plaskite Wheels.



FAULTLESS CASTER CORPORATION

Dept. TW-9, EVANSVILLE 7, IND. ***Canadian Factory:* Stratford, Ontario**

Branches in ATLANTA, BOSTON, CHICAGO, CLEVELAND, DALLAS, DETROIT, GRAND RAPIDS, HIGH POINT, HOUSTON, INDIANAPOLIS, LOS ANGELES, NEW YORK, ST. LOUIS

In other cities, consult your phone directory.

Tight Squeeze Between Spinning Frame and Drive No Longer a Problem!

HERE'S NEW CONVENIENCE for textile mills! Problem of sheave adjustment caused by placing drive close to spinning frame is now licked. New sheave can be adjusted easily from motor side.

Hand in hand with this improvement is a change to special locking and adjusting screws with a through-hole in the head of each. This permits use of a straight round lever rod. Eliminates fumbling with a screw driver, and makes speed adjustment easier than ever before.

In addition, this new wide range *Vari-Pitch* sheave is now the fastest mounting sheave of its type on the market. It is supplied with the easy-on easy-off *Magic-Grip*, tapered sleeve bushing with tight clamp fit the full width of the sheave.

PROVED IN OPERATION

A large number of these sheaves are now providing trouble-free service and new standards of accessibility on spinning frame drives.

Get complete engineering data. Call your nearby Allis-Chalmers distributor or district office, or write Allis-Chalmers, Milwaukee 1, Wis.

Vari-Pitch and *Magic-Grip* are Allis-Chalmers trademarks.

HOW IT WORKS

Stop drive and release belt tension. Release sheave mechanism by loosening just one locking screw, using lever rod. Then adjust pitch diameter by turning adjusting screw with rod. Retighten sheave mechanism; readjust belt tension.

GET COMPLETE FACTS

Allis-Chalmers
Milwaukee 1, Wisconsin

Please send me complete engineering information 2057811.

Name .....

Title .....

Company .....

Street .....

City ..... State .....

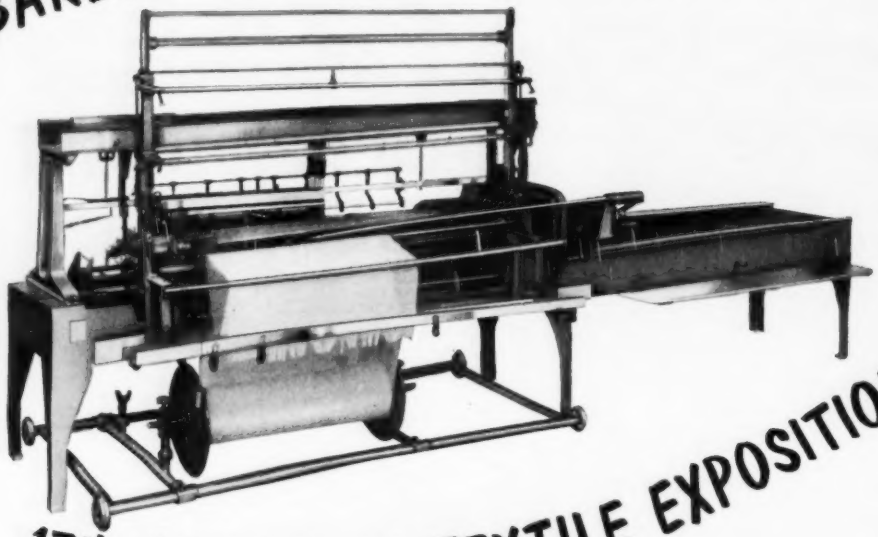
A-3826

A-C ALLIS-CHALMERS

ALLIS-CHALMERS

For more information, write direct or use Reader Service post card.

BARBER-COLMAN COMPANY



17th SOUTHERN TEXTILE EXPOSITION

BOOTHS
250 251
259

48eSH Warp Drawing Machine

New Improved Heddle Counter and Checker

New Power-Driven Pattern Punch

As for many years past, Barber-Colman Company will again exhibit at the Southern Textile Exposition. We will show in operation a 48eSH *Warp Drawing Machine,* a size designed to draw up to 8 harness, 6 banks of drop wires, and reed. Also, you can see a new model *Heddle Counter and Checker,* accurately and efficiently counting the number of heddles per frame and simultaneously checking them for correct operating sequence. Another working exhibit will be the new *Power-Driven Pattern Punch,* the newest and easiest method of making patterns for the Warp Drawing Machine. *Be sure to stop and see us!*

ALSO
BARBER-COLMAN
CONTROLS-Booth 216
DOORS-Booth 217

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY
ROCKFORD • ILLINOIS • U. S. A.
FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND MUNICH, GERMANY

Don't give fire a FIGHTING CHANCE!

Here's why you get greater fire-killing punch . . . and more safety for the fire fighter . . . with a Kidde Dry Chemical Extinguisher:

The Kidde Extinguisher with its patented Diffuser Horn blankets the danger area with a cloudlike pattern of dry chemical. The chemical absorbs heat and sets up a cool "wall" between the operator and the fire. That makes it possible for even an inexperienced operator to cover a greater area. Danger from splashing of burning liquids is reduced.

For extra speed, efficiency and safety . . . insist on Kidde Portable Fire Extinguishers.

K Kidde

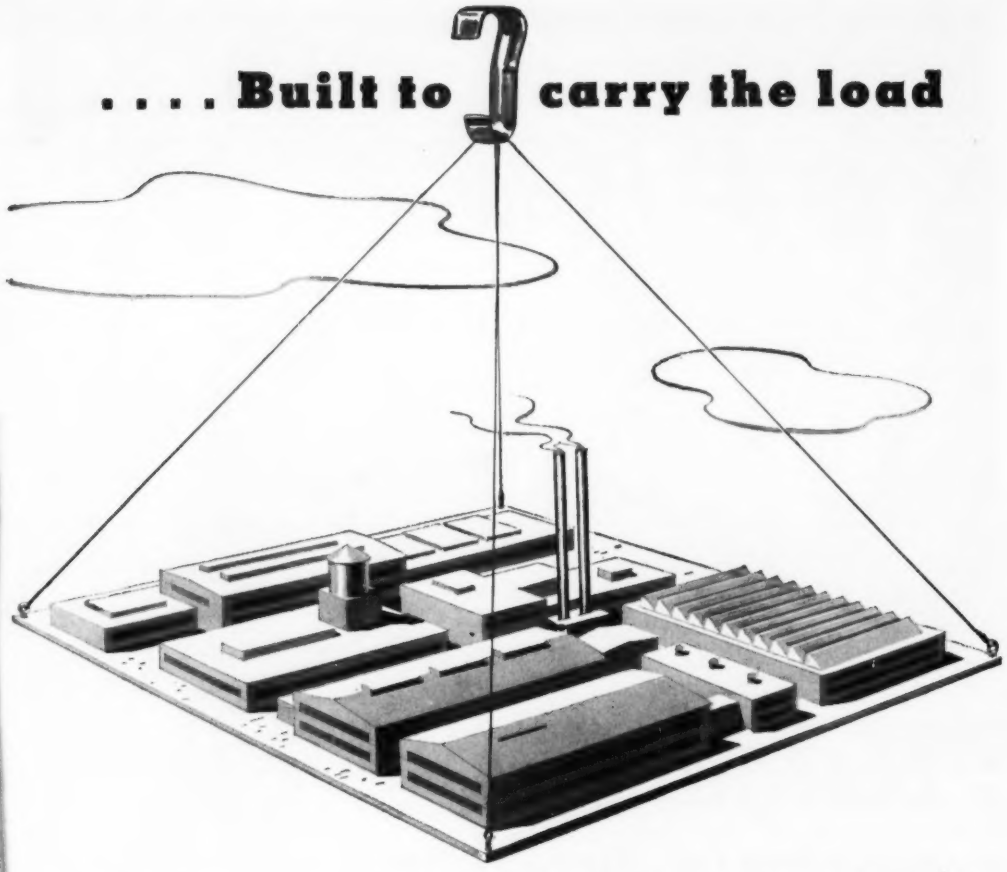
The word "Kidde" is the trade mark of Walter Kidde & Company, Inc., and its associated companies.

Walter Kidde & Company, Inc., 891 Main Street, Belleville 9, N. J.
Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

Kidde

For more information, write direct or use Reader Service post card.

. . . . Built to carry the load



The entire production of your mill passes through travelers. That's why it is so important to choose travelers that can "carry the load".

The *wrong* traveler will slow up the steady flow of work at the spinning or twisting. Production will lag, quality will suffer, and profits will sag.

With the *right* traveler, you can meet output schedules, cut down waste, and upgrade quality.

Today it is more difficult than ever to be sure the traveler will "carry the load" because of new developments in synthetics and blends, and new techniques in processing conventional fibers. To save time and trouble in setting up the smooth-running spinning or twisting you want, you need up-to-the-minute traveler information.

The Victor Service Engineer can give you this information. His job is to keep abreast of every new development. He will help select the *right* traveler for any fiber, any blend you may be running.

That is why Victors have been selected for over 10,000,000 spindles by the nation's ablest millmen. Write, wire, or phone the nearest Victor office.

VICTOR
RING TRAVELER COMPANY

PROVIDENCE, R. I.
20 Mathewson St.
Tel. Dexter 1-0737

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358 West Main Ave.
Tel. 5-0891

Keep a Step ahead with

VICTOR Ring Travelers

At the Greenville Textile Exposition

VISIT THE VICTOR BOOTH 243

Come in . . . sit down . . . and relax. We'll be glad to see you.

It's the EXPERIENCE that counts...

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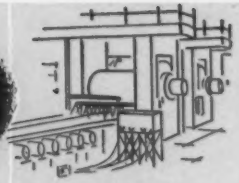
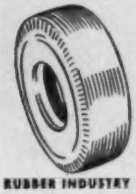


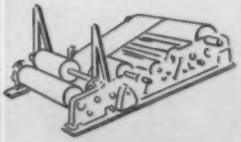
STEEL INDUSTRY



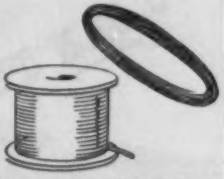
RUBBER INDUSTRY

PLASTICS INDUSTRY

FOOD INDUSTRY



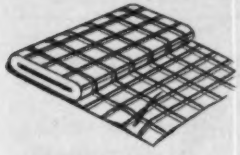
PAPER INDUSTRY



WIRE AND CABLE INDUSTRY

MINING INDUSTRY

CHEMICAL INDUSTRY



TEXTILE INDUSTRY

METAL FABRICATING INDUSTRY

in providing

OPERATOR CONVENIENCE through machine design

By working closely with machinery manufacturers and users, Reliance has constantly simplified the control of drive equipment to improve the productivity of machinery. Production is increased because controls of the Reliance V★S Drive are placed where the operator can conveniently select the right speed for each operation. Because operator fatigue is reduced, there is less production lag—scrap losses are held to a minimum. Write today for new V★S Drive Bulletin D-2311.

You Can Operate

RELIANCE V★S DRIVES

at the

SOUTHERN TEXTILE EXPOSITION

BOOTH No. 144

Greenville, S. C.—Oct. 6-11, 1952

Preview the NEW

RELIANCE TEXTILE MOTOR

RELIANCE ELECTRIC AND ENGINEERING CO.

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YOU CAN TEACH AN OLD TEXTILE NEW TRICKS!

Old or new, textiles can be made to perform better, serve longer, with the help of Stein Hall products. Our laboratory technicians continually scrutinize the textile industry, searching for new ways to improve our products for warp sizing, printing, and finishing fabrics.

Stein Hall has been working with textiles for many years, endlessly testing under expert supervision in controlled laboratories. Our success is measured by the efficiency of the operation in *your* plant. The benefits of our 85 years of experience are yours for the asking. For any textile problem, call for one of Stein Hall's trained salesmen.

Write for Quotations, Free Samples and Consultation.

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STEIN SH HALL

285 MADISON AVENUE NEW YORK 17, N. Y.

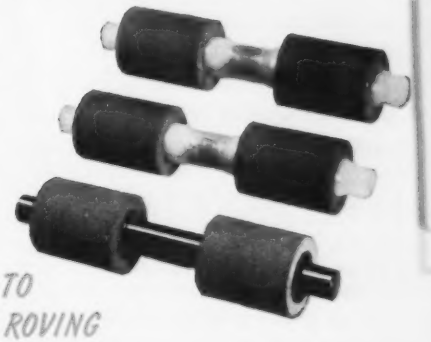
ESTABLISHED 1866

Textile Laboratories in Providence, New York, and Charlotte. Branch offices in 17 cities in the U. S. and Canada.

PATENTS PENDING

Here is the way

- to improve uniformity of yarn;
- to obtain consistent tensile strength;
- to eliminate all oiling expense;
- to greatly reduce picking cost; cycle extended to as much as once in 8 weeks:
- to get cleaner yarn free from oil.



SEE THEM AT BOOTH 352 GREENVILLE

THESE ROLLS APPLICABLE TO ALL SPINNING AND ROVING

FOR FURTHER INFORMATION ADDRESS

PRODUCT SALES, INC.

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CLEANDRAFT ROLLS ARE MADE BY INDUSTRIAL PLASTICS, INC., WHITMAN, MASS.

Ala., Ga., La., Miss., S. C., Tenn., Product Sales, Inc., Box 1863, Spartanburg, S. C.

Virginia and North Carolina: R. L. McCauley, 3020 Manor Road, Charlotte, N. C.

Ark., Texas, Okla.: Texas Roller Covering Works, 2407 N. 17th Street, Waco, Texas

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Cuba: B. R. Deming, 107 Massachusetts Ave., Boston, Mass., U.S.A.

CLIMAX ROLLS ARE MADE BY MACHINECRAFT, INC., WHITMAN, MASS.

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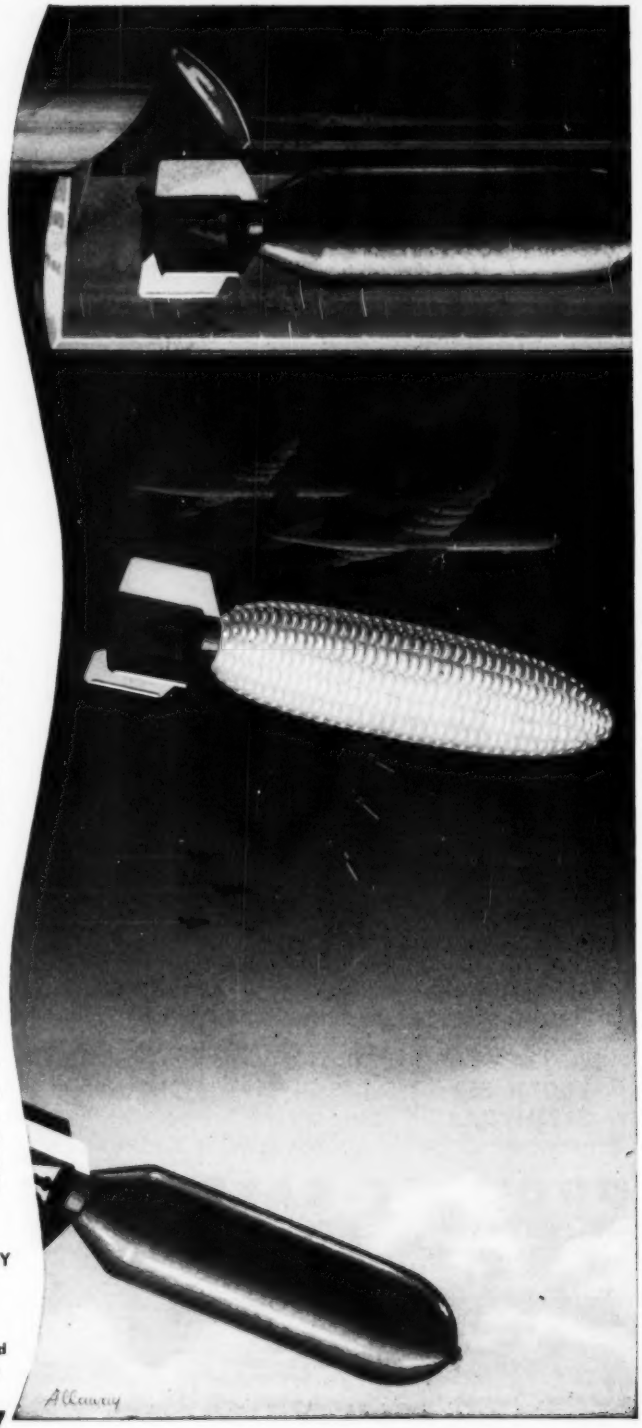
For European Service: Victor Bescroft, 84 Stevenstone, Otley, Yorkshire, England

CLIMAX BALL BEARING TOP ROLLS ADOPTED BY *Whitin* **MACHINE WORKS** and supplied on Whitin machinery as standard where anti-friction rolls are required. Climax Rolls are available through Whitin Machine Works and all of their agents.

What's corn doing 35,000 feet up?



The casing of the bomb . . . possibly the high explosives inside . . . both require the use of special corn products in the manufacturing process. These, and hundreds of other corn products, have been developed by the continuing basic research in corn that serves all American industry . . . serves you.

Corn products in textiles

In the textile field starches, gums and dextrines provide superior formula ingredients for many textile processes. New techniques involving the use of corn products are being developed as part of a continuing research program at Corn Products Refining Company.

If you have a production problem why not check with Corn Products. A complete line of corn products for every purpose is available. Technical service is yours . . . no obligation, of course.

CORN PRODUCTS REFINING COMPANY
17 Battery Place, New York 4, N. Y.
Manufacturers of

GLOBE brand dextrines, gums **GLOBE brand starch** **EAGLE brand corn starch**

Louis Allis SELECT-A-SPEDE Drive gives you

PRECISION SPEED CONTROL FROM YOUR A.C. LINES

The real answer to many of your operating and production problems is right here — with the Louis Allis Select-A-Spede Drive, featuring the new Magnetic Amplifier Control. This drive provides unusual flexibility and positive control — flexibility and control you never thought possible from an A.C. line. You get increased production from your machines, fewer operating headaches, with the exact speed you need for your job — when you want it, where you want it.

Check these Select-A-Spede features:

A size for practically every need — units up to 150 horsepower.

Trouble free operation — as a result of advanced design and the use of industrial duty components.

Stepless speed range — from 1/8 base speed or less to greater than base speed. Special designs permit speed ranges to five times base speed where required. A wide variety of optional features are available, too: inching, jogging, sequence control, reversing, dynamic braking, and multi-motor ranges.

Superior speed regulation — even at low threading speeds — better than required on most machines. Use of the magnetic amplifier and a special anti-hunt circuit maintains speed constant regardless of load.

Complete protection — against overload and runaway.

Clean, filtered air — supplied under pressure to power unit. Keeps dust and dirt out — reduces maintenance.

There are probably many operations in your own plant right now where a Select-A-Spede can save you time and trouble — boost production and efficiency.

Look into this drive's many unusual, practical features. Write today for further information about the money-saving advantages of the Louis Allis Select-A-Spede or contact the district office nearest you.

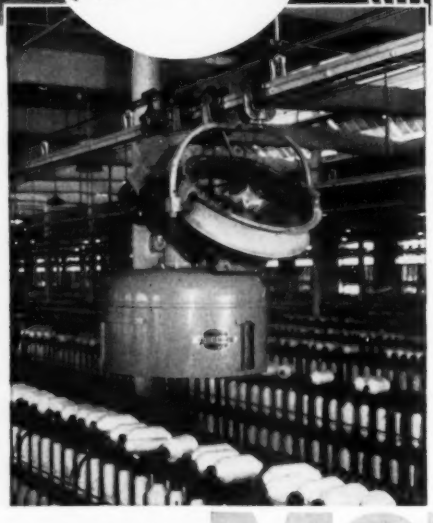
BA-101

THE LOUIS ALLIS CO., Milwaukee 7, Wisconsin

Standard or special — we build it. Whatever electrical or mechanical modifications or features you need, there is a Louis Allis motor that will do your toughest jobs better.

AMERICAN MONORAIL *Automatic Cleaners*

SAVE LABOR • IMPROVE YARN PRODUCTION



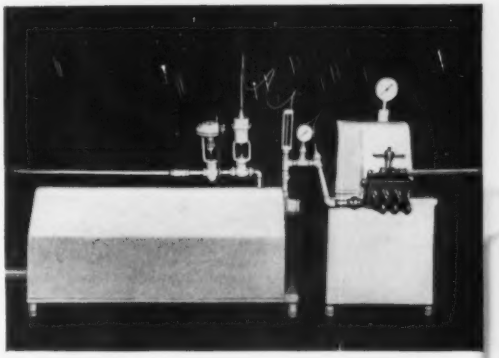
You can eliminate fly, keep ceilings clean, reduce machine stoppage, lower cleaning costs and get better running work with American MonoRail Automatic Overhead Cleaners. Consultation with an American MonoRail engineer will reveal why Controlled Cyclonic Cleaning is used in so many textile plants. Write for 24-page booklet explaining cost-saving advantages.

See Us at The
SOUTHERN TEXTILE EXPOSITION
Booth Nos. 111 & 112

THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE **CLEVELAND 7, OHIO**

Continuous size preparation and increased loom efficiency with the new



Scott & Williams Hydropulse

What the Hydropulse is: like many important developments, this unit is basically quite simple in design. It consists of a heat exchanger for heating cold starch mixes to the swelling point, and a high pressure homogenizer to convert the mixes into finished size of controlled viscosity.

What it can do for YOU: the Hydropulse will give you *continuous size preparation*. Costly batch methods have been completely eliminated. You get fresh size at the push of a button.

In addition to increased weaving efficiency you get: savings on starch costs, savings on steam costs and better process control. You can be sure of all these benefits because the Hydropulse is specifically designed for textile use by a company that has specialized in textile machinery for over 80 years... Scott & Williams, Inc.

For more information: write today to one of the addresses below.

PIONEER DIVISION

SCOTT & WILLIAMS, INC.

Empire State Building, New York 1, N. Y.

SALES AGENTS:

SOUTHERN SIZING COMPANY, East Point, Georgia

BRYANT CHEMICAL CORP.,
6 North Street, North Quincy 71, Mass.

You are cordially invited to visit Booth No. 359 at the 17th Southern Textile Exposition, Textile Hall, Greenwich, S. C., October 6-11. The Scott & Williams Hydropulse will be exhibited.

(Advertisement)

WESTON TAG

Thermometers

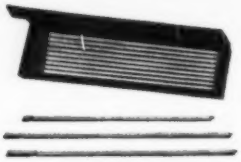
in all forms—ranges—stem lengths—connections

Whether your requirement calls for certified laboratory thermometers . . . or rugged all-metal industrial types . . . or thermometers for remote reading . . . you'll find *exactly* what you require in the Weston-TAG line—*the most comprehensive line of quality thermometers ever offered by ONE manufacturer.* Literature on request. WESTON Electrical Instrument Corporation, 617 Frelinghuysen Avenue, Newark 5, New Jersey.

Laboratory

ALL-METAL

—have readable, dial-type scales and corrosion-resisting stainless steel stems—stem lengths from 2" to 24"—ranges from low as −100°F. to high as 1000°F.—accuracy ½ of 1% of thermometer range.



GLASS

—certified sets of ASTM Testing thermometers with overlapping ranges in protective case. Ranges from −36°F. to high as 760°F. Also precision and standard etched stem thermometers for general testing.

Industrial

ALL-METAL

—provide unmatched readability and durability—accuracy within 1% of thermometer range. Available in all types, ranges and stem lengths (2½" to 72") for all requirements.

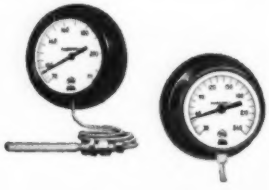
GLASS (Metal Case)

—available in all forms, all ranges, stem lengths and connections. Accuracy within one scale division. Also submarine types, metal and cupcase thermometers.

Remote Reading

ELECTRICAL

—resistor bulb sensing element permits mounting indicator any distance away from point of measurement. *Multiple* remote readings also possible by use of selector switch and several bulbs.



PRESSURE ACTUATED

—for remote reading, in 5, 6 and 8" dial sizes. Ranges from low as −325°F. to high as 1000°F. Accuracy one scale division unaffected by vibration or severe shock. Cases of iron, brass, or plastic.

WESTON *Temperature Instruments*

— TO INDICATE — RECORD — CONTROL

9413

"TAG" Automatic Controllers Record Temperature, Pressure

Pressure, vacuum or temperature can be automatically regulated and recorded with the Pneumatic Recorder-Controllers produced by TAGliabue Instruments Div., Dept. 67, Weston Electrical Instrument Corp., Newark 5, N. J. These devices maintain conditions for which they are set by varying control line air pressure, which operates a diaphragm valve to regulate flow of fluid (gas, steam, liquid) to the equipment being controlled. At the same time, the instrument continuously records actual temperature or pressure on a circular chart.

Operating on an air supply of 18 p.s.i., TAG Recorder-Controllers handle temperatures between −100°F. and 1000°F., vacuum as great as 30" mercury, or pressures up to 7500 p.s.i.

"TAG" Temperature Recorders Chart from −300° to +1000°F.

Accurate written records of varying temperatures are charted by the Temperature Recorders produced by TAGliabue Instruments Div., Dept. 67, Weston Electrical Instrument Corp., Newark 5, N. J. Temperatures as low as −300°F. or as high as +1000°F. can be recorded with these versatile instruments.

Various types of actuations in TAG Temperature Recorders achieve scale expansion for utmost precision over the working ranges. Interchangeable tube systems are laboratory calibrated at the factory. A safety link provides over-range protection. Details are given in Catalog 1210.

"TAG" Pneumatic Controllers Govern Temperature, Pressure

Pressure, vacuum or temperature can be accurately regulated by the Pneumatic Controllers engineered by TAGliabue Instruments Div., Dept. 67, Weston Electrical Instrument Corp., Newark 5, N. J. These trustworthy devices maintain the conditions for which they are set by varying air pressure in a control line, which in turn operates a diaphragm valve to increase or decrease the flow of fluid (air, gas, steam, liquid) to the equipment being controlled.

Operating on an air supply of 18 p.s.i. pressure, TAG controllers handle temperatures between −100°F. and 1000°F., or pressures between 30" vacuum and 7500 p.s.i.

REEVES Variable Speed Transmission

The original, mechanically correct unit for providing complete, stepless speed adjustability.

Industry's most widely used unit for adjusting machine speeds . . . for all these good reasons:

1. Incorporates the REEVES operating principle—proved in 300,000 installations—which assures *accurate, positive* delivery of any desired speed within the entire speed range, without stopping the machine.

2. Makes "changeovers" easier—utilizes the machine's *full* capacity—by providing the *right* speed—with the turn of handwheel or touch of button—for every operation and every operator, under every changing condition.

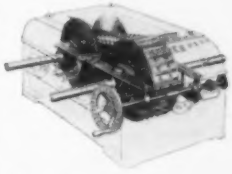
3. Wide choice of vertical and horizontal models—capacities up to 87 hp; in speed ratios of 2:1 to 16:1; manual, electric, hydraulic or completely automatic controls; suitable for mounting in any position. Also "Internals" for mounting within machine framework.

4. Easily installed on your machines. Ruggedly constructed with few moving parts subject to wear . . . requires no special tools or training to maintain.

5. Used on more different kinds of machines in a greater variety of industries than any other single variable speed drive.

Profit from REEVES Speed Control in your plant—*see immediate results.* Send for full details on REEVES Speed Control—ask for catalog No. W68a-G.

Operating Principle



REEVES Variable Speed Transmission embodies the proved operating principle of a V-belt driving between two pairs of cone-shaped discs, mounted on parallel shafts and adjustable to form an infinite number of driving and driven diameters. One shaft receives power at constant speed from motor, line shaft, etc. Other shaft delivers power at infinitely variable speeds to driven machine. Each speed setting is held without fluctuation. Operation is practically noiseless.

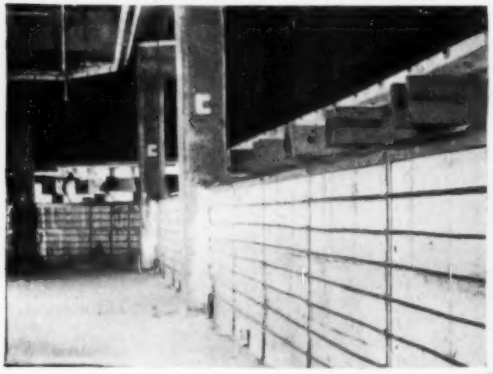
REEVES PULLEY COMPANY • COLUMBUS, INDIANA

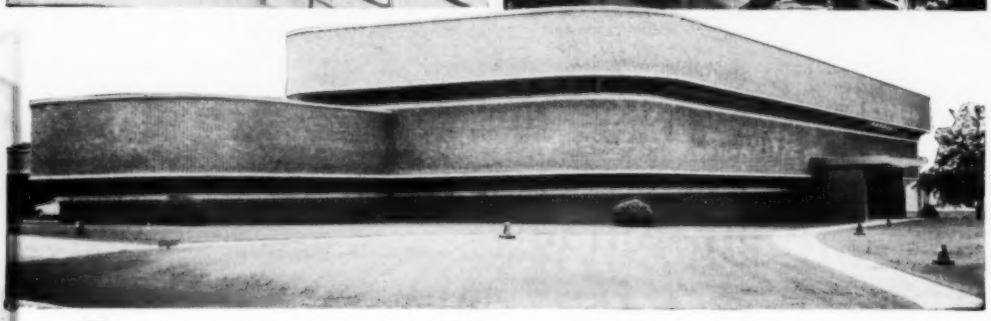
Recognized leader in the specialized field of speed control engineering

accurate • variable
REEVES *Speed Control*

For more information, write direct or use Reader Service post card.

Name: The Springs Cotton Mills, Fort Mill, S. C. Design Engineers: Robert & Company, Inc., Atlanta, Ga. General Contractors: George A. Fuller Company, New York City.





Latest thing in Southern Fashions

● You'll have to admit that this is one of the most striking office-research buildings ever erected in the South—or anywhere else for that matter.

Exterior walls are insulated with easy-to-lay blocks of all-glass FOAMGLAS; and as shown above, heating and cooling pipes are placed right in the walls over the FOAMGLAS. Here, FOAMGLAS does two jobs: 1) it makes the heating-cooling system more efficient, and 2) it serves as a practically indestructible insulation.

Every block of FOAMGLAS contains millions of tiny air cells individually sealed in a true, inorganic glass. There are no organic binders or fillers of any kind. This all-glass, cellular construction is the secret of the high insulating value of FOAMGLAS and its excellent resistance to chemicals and water.

Let us send you a free sample of this unusual insulating material. Just fill in the coupon and check the booklets you want.

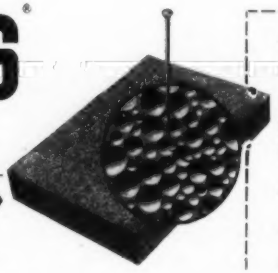
PITTSBURGH CORNING CORPORATION · PITTSBURGH 22, PA.

PITTSBURGH PC CORNING

FOAMGLAS®

the cellular glass insulation

The *best* glass insulation is cellular glass. The *only* cellular glass insulation is FOAMGLAS. This unique material is composed of still air, sealed in minute glass cells. It is light weight, incombustible, verminproof. It has unusually high resistance to moisture, chemicals and many other elements that cause insulation to deteriorate.



Pittsburgh Corning Corporation
Dept. V-92, 307 Fourth Avenue
Pittsburgh 22, Pa.

Please send me, without obligation, a sample of FOAMGLAS and your FREE booklets on the use of FOAMGLAS for Normal Temperature Commercial, Industrial and Public Buildings ☐. Piping and Process Equipment ☐.

Name.....

Address.....

City.....State.....

NON-FLUID OIL

TRADE MARK REGISTERED

Oil Progress Week
Oct. 12-18

Since 1947, the Oil Industry has annually set aside a week to call to the public's attention the story of oil and the amazing progress being unfolded by the industry.

Since 1896, for 56 years, NON-FLUID OIL, with its exclusive drip-less, waste-less properties has been setting the pace in that and other phases of Oil Progress. Today, NON-FLUID OIL is still the progressive pioneer in textile lubrication. Seven out of ten textile mills use NON-FLUID OIL grades that are specifically recommended for their equipment in its present condition.

Write for instructive bulletin and free testing sample of NON-FLUID OIL.

●

SEE US AT BOOTH 109, SOUTHERN TEXTILE EXPOSITION

●

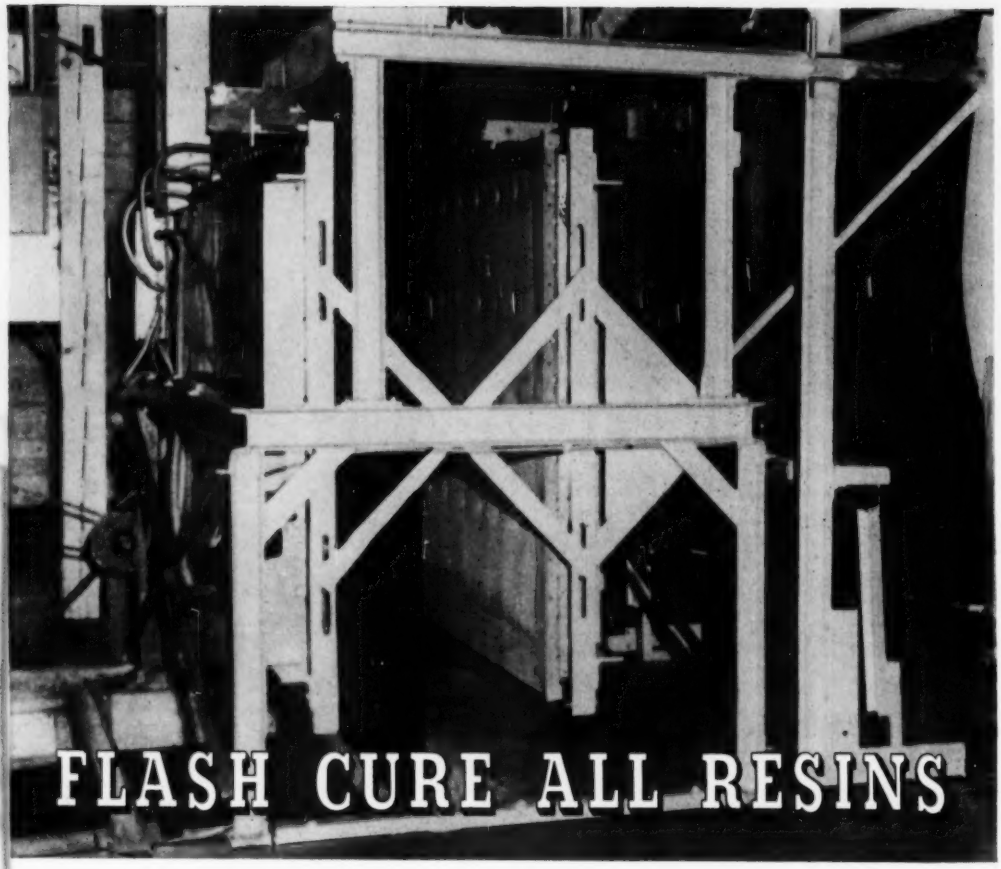
NEW YORK & NEW JERSEY LUBRICANT CO.

292 MADISON AVE., NEW YORK 17, N. Y. **WORKS: NEWARK, N. J.**

SOUTHERN DISTRICT MANAGER: Lewis W. Thomason, Jr., Charlotte, N. C.

WAREHOUSES: Atlanta, Ga.—Birmingham, Ala.—Charlotte, N. C.—Chicago, Ill.—Columbus, Ga.—Detroit, Mich.—Greensboro, N. C.—Greenville, S. C.—Providence, R. I.—St. Louis, Mo.

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.



FLASH CURE ALL RESINS

in a single pass operation

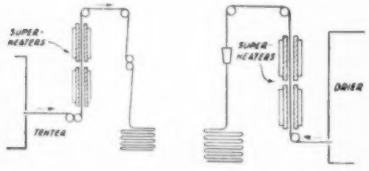
NO CURE BOX is necessary with black radiant heat . . . just dry and cure in tandem on the drier.

TO GET THE FASTEST POSSIBLE CURING on resinous finishes, place Fibre Glass Super-Heaters at the delivery end of **present equipment.**

RESINS completely absorb this black radiant heat providing a 100% cure. The cloth emerges with an excellent "hand" and a resin retention as high as desired.

THE NUMBER OF SUPER-HEATERS is determined by the speed of operation. Six feet of heat usually gives a curing speed of 20 to 25 yards per minute.

AVOID NEEDLESS CLOTH-HANDLING in favor of tandem operations. Curing with Super-Heaters makes operations truly economical.



SILL INDUSTRIES

distributor

INDUSTRIAL RADIANT HEAT CORPORATION

51 MADISON AVENUE, NEW YORK 10, N. Y.

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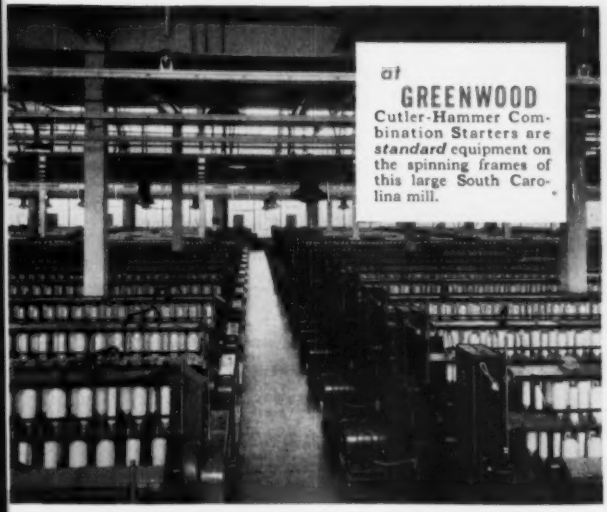
CUTLER-HAMMER

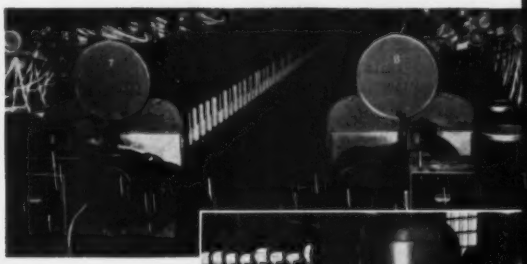
MOTOR CONTROL FOR THE TEXTILE INDUSTRY



at

GREENWOOD

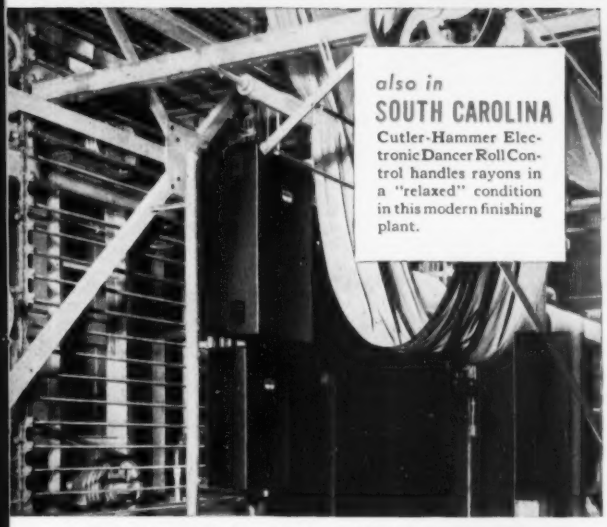
Cutler-Hammer Combination Starters are *standard* equipment on the spinning frames of this large South Carolina mill.



for

WAUMBEC

at Manchester, N. H. Cutler-Hammer Pushbutton Manual Starters on uptwisters and Primary Resistor Type Magnetic Starters on roving frames. Cutler-Hammer control also used on looms and spinning frames in this great mill.



also in

SOUTH CAROLINA

Cutler-Hammer Electronic Dancer Roll Control handles rayons in a "relaxed" condition in this modern finishing plant.

CUTLER-HAMMER LOOM SWITCH

for fewer shutdowns, greater production, easier maintenance

Pushbutton operation – an achievement for this type of starter. Stop button can be padlocked.

Stronger, smaller, drawn steel case. Unique welded-steel mounting pedestal available to create a *complete* assembly with unparalleled resistance to mechanical shock.

Lint-proof enclosure – close fitting cover (even around pushbutton well) limits entrance of lint and dust.

Service proven, positive make, quick break operating mechanism built on *steel* framework.

"Out in the open" contacts for quicker inspection and easy renewal *on the job*. Most dependable overload protection – famous Cutler-Hammer eutectic element type – prevents unnecessary shutdowns without sacrifice of *positive* motor protection.

Vibration resistant. Mechanism "floats" in truly effective *live rubber* mounting bushings.

Too important to be left to chance

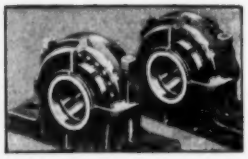
Men who *know* textile production costs are careful buyers of motor control equipment. They know a single work stoppage caused by faulty control can easily cost more than the entire purchase price of the control. In consequence, they do two things. First, they compare *all* makes of motor control to determine which is most dependable. Second, they specify this make by *name* on every purchase order.

Cutler-Hammer Motor Control is the natural choice of men who know dependability in motor control is too important to be left to chance. They quickly find Cutler-Hammer dependability is not a mere competitive claim but a *fact* that can stand out clearly in a mill's production records to reflect favorably on their own ability and good judgment. They also find that Cutler-Hammer dependability is not an occasional happenstance... that it is the earned advantage of the longest and most intensive specialization in motor control engineering... that it can safeguard *every* control need from the simplest starter to the most complex electronic equipment.

You too will find it pays to insist on Cutler-Hammer Motor Control and refuse all substitutes. An adequate network of Authorized Cutler-Hammer Distributors throughout the textile manufacturing areas insures prompt attention and supply. CUTLER-HAMMER, Inc., 1457 St. Paul Avenue, Milwaukee 1, Wisconsin.

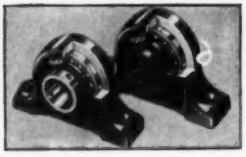
CUTLER-HAMMER
MOTOR CONTROL
C-H

SEE CUTLER-HAMMER EXHIBIT AT SOUTHERN TEXTILE EXPOSITION BOOTH 460 ANNEX 1

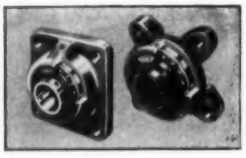


SERIES SAF—Ball or roller bearing pillow blocks, with Triple-Seal rings which keep dirt out, lubricant in. Wide range of load-carrying capacities.

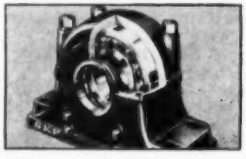
SERIES SES and SY—Unit ball bearing pillow blocks. The SES is mounted in rubber, prevents transmission of noise. The SY permits liberal misalignment—is effectively sealed by famous SKF Red Seal.



SERIES SUS and SUA—Unit ball bearing pillow blocks (SUAR equipped with spherical roller bearings). Ring seals exclude dirt. The SUA is an adapter-type mounting.



SERIES FUS and FUA—Ball bearing flanged unit having same features as SUS and SUA pillow blocks. (FUAR equipped with spherical roller bearings).



SERIES SDAF—Exceptionally sturdy construction for unusual shock and heavy thrust loads. Equipped with Triple-Seal rings for bearing protection.

One for every place— one place to get them all

PROBLEM—In every industry, designers and production engineers are constantly confronted with the problem of combating friction. Every turning part of machinery presents problems of speeds and loads—sometimes radial, sometimes thrust loads—usually both.

SOLUTION—Depend on SKF ball and roller bearings and pillow blocks to combat wasteful friction. SKF engineers can help you put the right bearing in the right place.

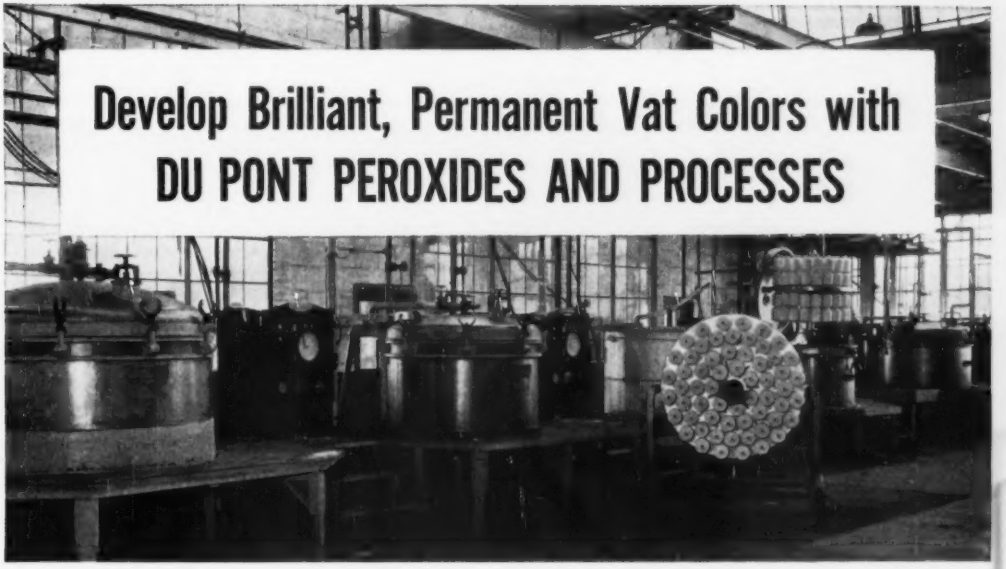
RESULT—Your equipment will improve in performance. SKF's wide range of bearing types and sizes, plus engineering know-how, makes it possible to select that type with those characteristics which make it the best choice for your particular application.

Write, **SKF INDUSTRIES, INC.,** PHILADELPHIA 32, PA.—*manufacturers of* **SKF** *and* HESS-BRIGHT *bearings.* 7343

SKF®
BEARINGS AND PILLOW BLOCKS

Remember Southern Textile Exposition Booth No. 511 — and pay SKF a visit.

Develop Brilliant, Permanent Vat Colors with DU PONT PEROXIDES AND PROCESSES



VAT OXIDATION with "Albone" 35 hydrogen peroxide offers dyers an economical means of fixing reduced vat colors. Acid peroxide solutions made with "Albone" 35 quickly oxidize most vat dyes . . . produce brilliant shades of exceptional depth and color fastness. Brightness is frequently superior to results obtained with chrome acetic acid.

Fabrics oxidized with "Albone" 35 can be readily finished. No objectionable metallic residue from the oxidation agent remains on the cloth after treatment—permitting greater cloth absorbency. In Sanforizing, this means greater speed and efficiency . . . in sewing heavy fabrics, freedom from overheated needles.

Equally suitable for continuous dyeing, jig dyeing or circulating machines, "Albone" 35 baths conserve time and material. There is little bleed-off in the oxidation bath—therefore, no necessity for changing the bath between runs of different shades. Bath maintenance is easy, whatever the fiber—cotton, viscose rayon, silk or wool; whatever the form—raw stock, yarn or piece goods.

Let Du Pont Help You With Your Wet Processing Problems

The excellent results obtained with Du Pont peroxides and processes for vat oxidation are typical. Whatever your wet processing problem—*continuous cotton or wool bleaching, batch cotton or wool bleaching or hosiery bleaching*—Du Pont technical and engineering men stand ready to help you. They'll be glad to show you how to get the most from your processing equipment and will explain the advantages of bleaching with "Albone" hydrogen peroxide. For more information and technical literature, send in the coupon below.

DU PONT
PEROXIDES
FOR TEXTILE BLEACHING

Available in drums and tank cars { "Albone" 35 . . . . Hydrogen Peroxide 35% / "Albone" 50 . . . . Hydrogen Peroxide 50%

DU PONT
REG. U.S. PAT. OFF.

150th Anniversary
BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department
Wilmington 98, Delaware

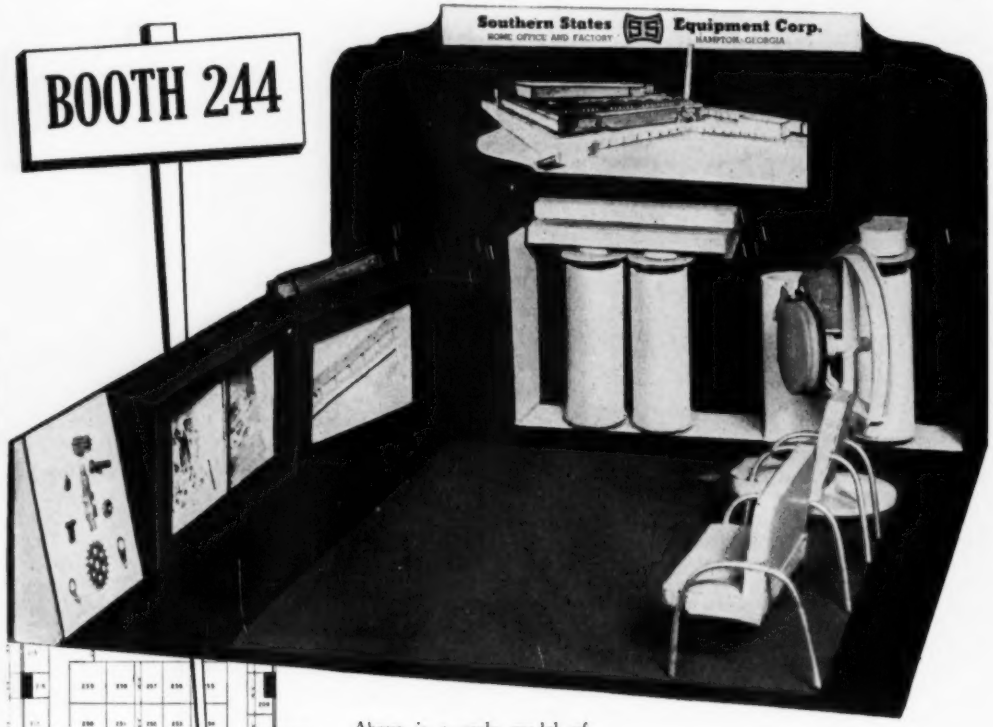
Please send me more information on Du Pont peroxides and processes. I am interested in the following types of textile processing:

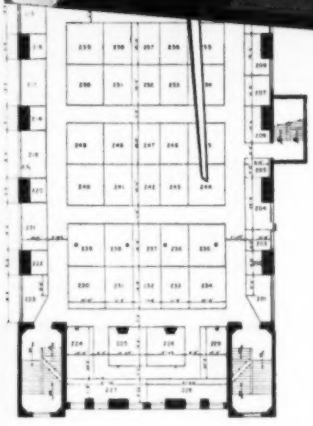
- ☐ Vat Oxidation
- ☐ Batch Bleaching of Cotton
- ☐ Continuous Wool Bleaching
- ☐ Continuous Cotton Bleaching
- ☐ Batch Bleaching of Woolens and Worsteds
- ☐ Hosiery Bleaching

*Name*_____ *Position*_____
*Firm*_____
*Street & No.*_____
*City*_____ *State*_____

For more information, write direct or use Reader Service post card

See you in GREENVILLE...





Above is a scale model of Southern States booth at the Textile Exposition.

Look for this booth at the Southern Textile Exposition in Greenville October 6 to 11. In it you will find the latest engineering developments by Southern States. You will see, in operation, Southern States new coiler conversions for cards and drawing frames. Also on display for the first time will be the new SS individual card drive. This display will show that the folks who gave you the Type C-1 Ball Bearing Comb Box, Off End Stand and stock part service for card room equipment are still advancing in textile research and engineering. Southern States is proud of its accomplishments in the past year and is looking forward to seeing you and telling you about them in Greenville.

Southern States HAMPTON **SS** **Equipment Corp.** GEORGIA

Representatives – Mechanical Division

William A. Knapp	Matthews Equipment Co.	John C. Walters	C. H. Kennington	Roy Schrimsher	Textile Parts & Mach. Co.	F. C. Todd, Inc.
Atlanta, Ga.	Providence, R. I.	Hampton, Ga.	Charlotte, N. C.	Columbus, Ga.	Gastonia, N. C.	Gastonia, N. C.

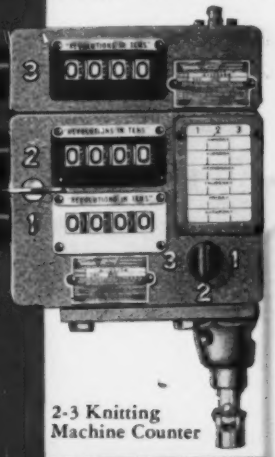
Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South

General Purpose Counter

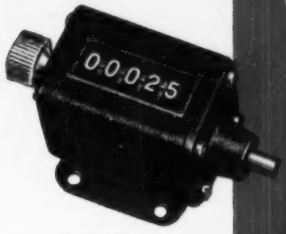
2-3 Hank Counter

Double-Wheel Linear Counter

Magnetic Counter



2-3 Knitting Machine Counter



Small Reset Counter

2-3 Pick Counter

Loom Cut Meter

For Competent Sales Engineering and Factory-Expert Service

...count on

VEEDER-ROOT

World's Largest Manufacturers of Counting Devices

VEEDER-ROOT
INCORPORATED
'Counting House of the Textile Industry'
HARTFORD 2, CONNECTICUT
GREENVILLE, SO. CAROLINA
Offices and Agents in Principal Cities
Montreal, Canada; Dundee, Scotland

COMING OCTOBER 6th

BLENDING and PREPARATORY PROCESSING *for SYNTHETICS*

Learn the most recent achievements in the fast moving field of synthetics processing . . . from the men who have been the pace-setters in the development of this equipment.

UP TO THE MINUTE INFORMATION ON DRYING EQUIPMENT

Complete information on modern Proctor drying equipment for every textile drying need—together with last minute word on some very interesting active developments—the nature of which cannot be divulged until show opening.

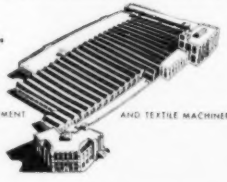
OPEN HOUSE and MOVIES

All during show week the new Proctor reclothing branch at Spartanburg will be open for inspection—with transportation provided from Greenville. Sound, color movies of late Proctor equipment in operation will be shown regularly for visitors to the branch.

Here is a three-fold program that no progressive textile man can afford to miss. It incorporates up-to-date technical information for every phase of the textile industry—from fiber preparation—through to finishing. The information available at the Proctor exhibit represents the results of intensive research and development work on the part of Proctor engineers—work that has been pursued with but one goal in mind—better and more efficient processing for you! We'll be expecting you in Greenville.

PROCTOR & SCHWARTZ · INC ·

710 TABOR ROAD
PHILADELPHIA 20, PA.



MANUFACTURERS OF INDUSTRIAL DRYING EQUIPMENT AND TEXTILE MACHINERY

Deep rich colors

for blends of ORLON and wool

To get rich, *washable* colors like these for blends of "Orlon" and wool, Du Pont's technical service experts helped make the dyeings right at the mill.

This is just one example of how Du Pont works with manufacturers to set up successful dyeing procedures for blends of wool and man-made fibers.

When you have a dyeing problem with any blend, call on Du Pont. Our technical service representatives will study your problem with you . . . and work with you to solve it. They can draw on Du Pont's unique experience both as a producer of dyes and creator of man-made fibers.

Research at Du Pont is directed toward constantly improving dyes and dyeing methods. For the latest developments, keep in touch with Du Pont. E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Delaware.

ORLON is Du Pont's trade-mark for its acrylic fiber.

Du Pont Dyes

DU PONT

REG. U.S. PAT. OFF.

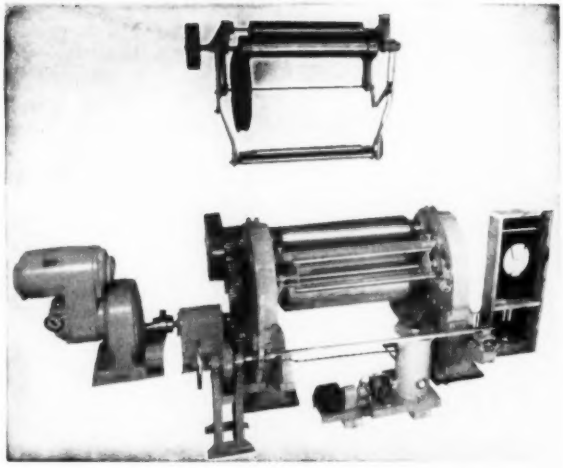
150th Anniversary

Better Things for Better Living . . . through Chemistry

. . . Calender Rolls, both new and refilled, of all types, from America's most complete line of filled rolls, well deserve to be called "America's Finest" because of their long life and better performance.

We've Named These "Appleton" --you'll call them "America's Finest"

. . . Two Roll Embossing Calender . . . compact, ruggedly built . . . designed to operate with a minimum of power and maintenance . . . offers these features — 10″ Bored Steel Roll, 20″ APPLETON Special Wool Felt Roll, Air Pressure Cylinder with Recording Chart, Anti-Friction Bearings, Force Feed Oil Lubrication, Ceiling Folder, Direct Motor Drive with Variable Speed. Truly "America's Finest".



APPLETON MACHINE COMPANY
APPLETON WISCONSIN

Custom Builders of Textile Finishing Equipment - Friction Calenders
Silk Calenders - Schreiner Calenders - Rolling Calenders

Handling Blends

(*Continued from page 99*)

differential affinity for cellulose degraded to different degrees.

The chlorite bleach cannot be considered seriously for general use at present in view of its unsuitability for wool and similar fibers and the fact that very little information is available as to its effect on viscose and other man-made fibers. Hydrogen peroxide is the only chemical that can be safely used on almost all fibers.

The general principle of tailoring the process to the most sensitive fiber is applicable to the natural fibers as well as the synthetics. For example, all peroxide bleaching of mixtures containing wool or other protein fibers must be sufficiently mild and well-controlled to prevent any damage to these fibers. Any strengthening of the bleach to increase its action on other types of fibers must be obtained by increased length of time, rather than by elevating the temperature or increasing the pH. For mixtures of cellulosic fibers, a considerable increase in both temperature and pH may be allowed, up to 180° F. at pH 10 with relatively low peroxide content. Higher temperatures for man-made fibers should be avoided. Alkaline peroxide should not be used at high temperatures for acetate.

Very interesting results can be obtained with the so-called optical bleaches. Dyers were not previously aware of the numerous shades of white that can be produced merely by treating the material with a little of this or a few parts per million of that, at almost any stage of any process. The chemistry of these products seems to be most ingenious, as it is directed at producing compounds having every property of a dye except color. These compounds are, of course, likely to become increasingly useful as their properties and special features become more widely recognized.

One-Bath Dyeing Is Best

When you dye mixtures of wool and cotton or wool and regenerated-cellulose rayons, the demand may be in one of three directions: one fiber may be required to remain undyed, both fibers may be required to be the same shade, or both fibers may require dyeing to different shades.

The first requirement—the complete reservation of one component—is relatively simple, particularly if it is the wool that is to be dyed. Little more need be said about it except to point out that the normal process is to use dyes that are applied to wool under acid conditions. The converse of this, the reserving of the wool, is

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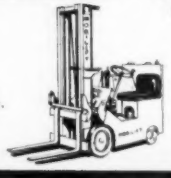

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not often called for, largely because the results are much inferior to those achieved by the first method.

The dyeing of solid shades on these mixtures is, however, a much more complicated process. The older two-bath method is now largely out of date. A further method of solid dyeing, the use of direct cotton colors, is probably more satisfactory than the two-bath process; but the difficulty of controlling and reproducing the partition of the cotton color between the two fibers is so great that success is not always certain and seldom easy.

The method that gives the most satisfactory results is one bath with colors that are taken up as little as possible by the other fibers. The neutral-dyeing acid colors are used for the wool, and selected colors that do not stain or that very slightly color the wool are used for the cotton. Very accurate control may be established by this method, and either solid shades or ingrain effects may be obtained at will. The desired degree of fastness can be obtained by the choice of suitable dyes, and any required aftertreatment can be given, provided it falls within the safety zone of the most sensitive fiber. Thus, for the wool one can use colors of the Coomassie, Carbolan, Polar, Cloth Fast, selected Alizarine and Xylene types, and any of the numerous dyes that are applicable to wool, including the metachrome colors. The cellulosic fibers may be dyed with various direct cotton colors and quite a number of aftertreatments may be given—diazotization and development, treatment with copper and chromium salts, and fixation of the dye with synthetic resins either with or without copper salts. As an extension of this method, it is possible to use some of the diazotizable cotton dyes that will stain the wool, and then either before or after full development, fill in the shade of the wool with suitable wool colors. This process is particularly applicable to the darker shades, such as navy and black.

There are pitfalls for the unwary in this method. The need for careful control of dye-bath pH and the possibility of materials being received for dyeing in acid condition lead to a great deal of trouble in dyeing. The pH of the dye bath can be controlled with borax and boric acid.

One interesting method of limited but special interest is the combination of a sulfur dyeing process on the cotton with subsequent dyeing of the wool by any desired process. This method is used for the production of very fast, bright, contrast effects such as black on cotton and a scarlet on wool. The sulfur color is applied by a modified method using sodium sulfite

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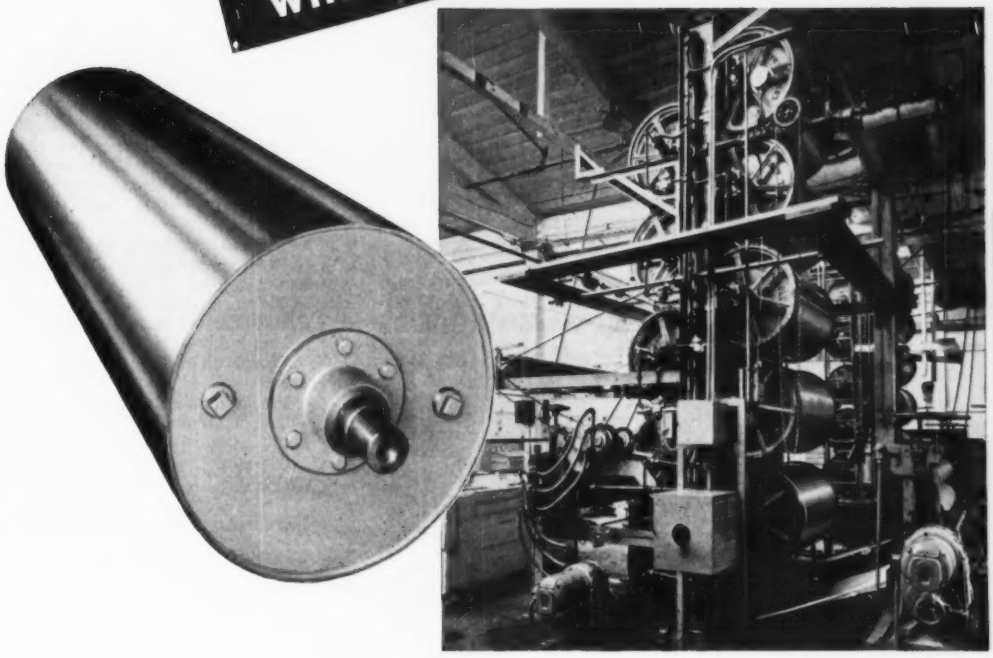

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Stainless steel conducts sufficient heat for drying at normal speeds. But it doesn't waste fuel dollars by conducting far more heat than is needed.

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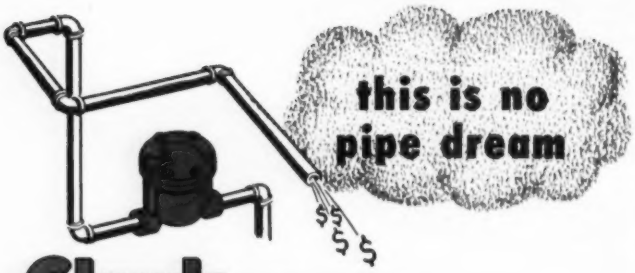

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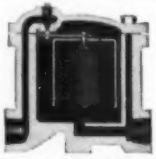

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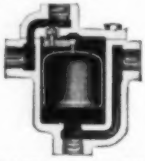

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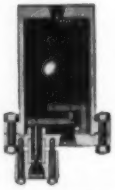

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instead of sodium sulfide. Under these conditions the wool suffers only very slight attack.

Colors that dye wool under controlled neutral conditions stain the cellulosic fibers much less than cotton dyes stain wool under the same conditions. This principle leads to the maxim: Get the cotton or rayon right first, and then adjust the wool.

The range of shades and effects called for on wool blended with nylon is almost as extensive as for wool and cotton, though contrasting effects are not so frequently required and are much more difficult to obtain. We have been dyeing blends of 5% nylon, 95% wool and 25% nylon, 75% wool to produce solid, nylon-reserve, and wool-reserve effects in a considerable range of shades. As these two fibers can be dyed with the same dyestuffs, and as nylon can also be dyed with a wide range of other dyes including those specially applicable to acetate rayon, the possibilities are very wide.

A further complication lies in the fact that when mixtures of wool and nylon are dyed together with certain dyes, the shades on the two materials are quite different.

The possibilities of dyeing by combination of pH control and selected colors are limitless. If proper consideration is given to choice of blends, the dyer can do wonders.

Finishing Coated Fabrics

(*Continued from page 117*)

could be accomplished without preheating, it was not practical from a volume-production or cost point of view, for it was often necessary to hold the dwell for several minutes on deep embossings.

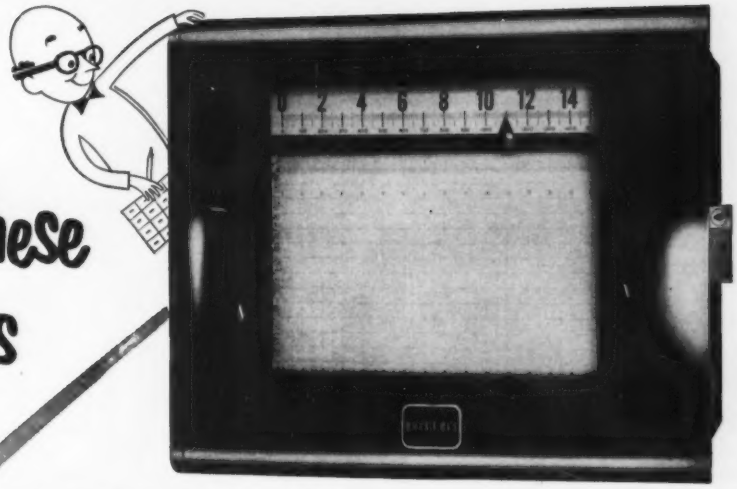
Low Pressure Is Best

Since very little pressure is required to hold the design into softened resin compounds, use of low-pressure embossing techniques, now standard practice in the industry, came next. Low-pressure embossing has many advantages, of which the following are outstanding:

1. It permits the use of lighter-weight, less expensive machinery.

2. The rubber-covered backing roll eliminates the need for a matrix roll for each embossing roll.

3. The rubber-covered backing roll eliminates the need for the direct size relationship between engraved roll and the matrix roll that is essential when the rolls must be kept in mesh. The engraved roll need be only large enough to accommodate a single pat-



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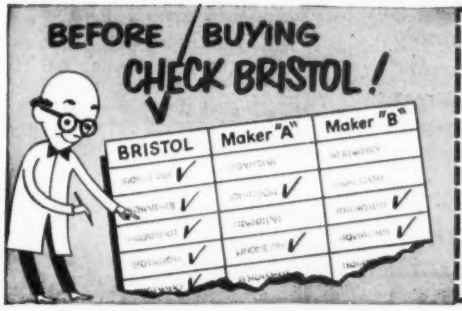

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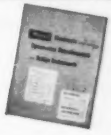

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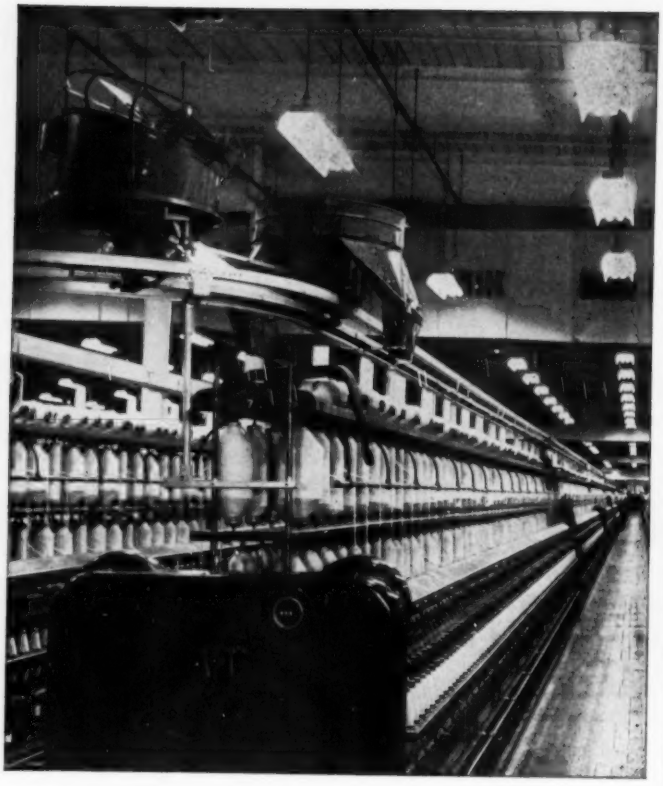

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tern of the design. This requirement has, in most instances, materially reduced the size and cost of the engraved roll.

4. The facts that much smaller rolls can be used and that any engraved roll can be used with the same matrix roll, together with the over-all use of lighter equipment permitted as the result of the lower pressure, made possible the development of a frame design in which the engraved rolls could be changed very rapidly. This design not only reduced the downtime of the embossing unit but also made tandem embossing practical in a line with the coating and fusion units. And there are savings in heat, for reheating is not necessary to emboss. Labor is saved in the operation, for the coating back tender can also operate the embossing unit. Materials handling is also reduced. Since one operation is eliminated, total production time is reduced.

An accompanying sketch illustrates the basic principles of the low-pressure embossing unit. Many ramifications of the design have been evolved by the various equipment manufacturers, particularly in the method of changing rolls, but the basic principles are fundamentally the same. The unit consists of a driven rubber-covered backing roll, over which is mounted a free-running embossing roll. Air jacks are used to raise the embossing roll or to apply pressure as required.

An expansion roll, or slack-selvage eliminator, is mounted on the entering side, together with a suitable let-off, preheating equipment, and tension rolls if the embosser is to be operated as a separate unit. Cooling rolls, necessary to reduce the temperature to the point where the film will not flow or mark off from the fabric backing, are provided on the let-off side, together with a suitable wind-up.

Both rolls are drilled. The backing roll is cooled by running water through it. The embossing roll is generally connected to both water and steam, the latter so that the roll may be warmed to the required temperature before putting the unit into operation. This system avoids any poor embossing from the use of a too-cold roll at the start. If the embossing roll is under 125° F. at the start, it will chill the surface of the softened coating enough so that it will not accept the complete detail of the surface of the engraving.

Best Roll Temperature Varies

For most embossings, it is necessary to cool the engraved roll after the operation is started. The hot plastic will gradually heat the roll until there is a

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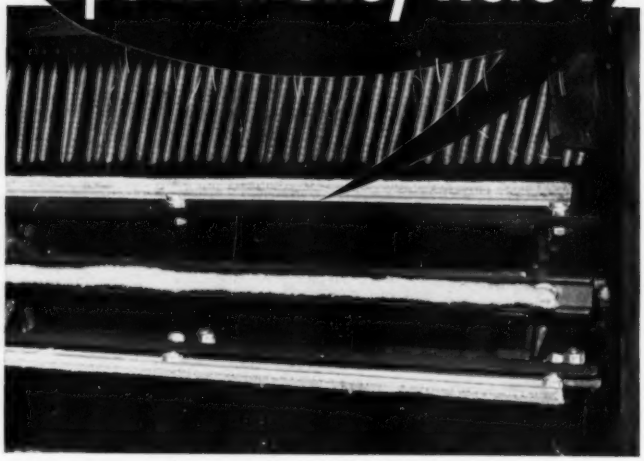

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tendency for the grain to distort as the fabric is pulled away. If the roll is too hot, the coating may stick to the embossing roll. The optimum roll temperature varies with the formulation used and the depth and type of engraving. Ordinarily the temperature should be about 200° F., and cooling is necessary to maintain such a temperature. Rotary joints are connected by flexible hose with snap-on fittings to expedite the roll change.

The rubber covering is compounded to have maximum heat resistance to prolong the life of the roll. The surface of the rubber roll will gradually harden from heat exposure. The hardening may be ground off as necessary, for there is no requirement for direct ratio between the size of the two rolls.

How To Select the Rubber Roll

A softer rubber has been found expedient when deep embossings must be developed on lightly coated fabrics. In such cases there is not sufficient compound to take all of the depth of the grain, and the fabric must be distorted somewhat to give the needed detail without cutting completely through the coating.

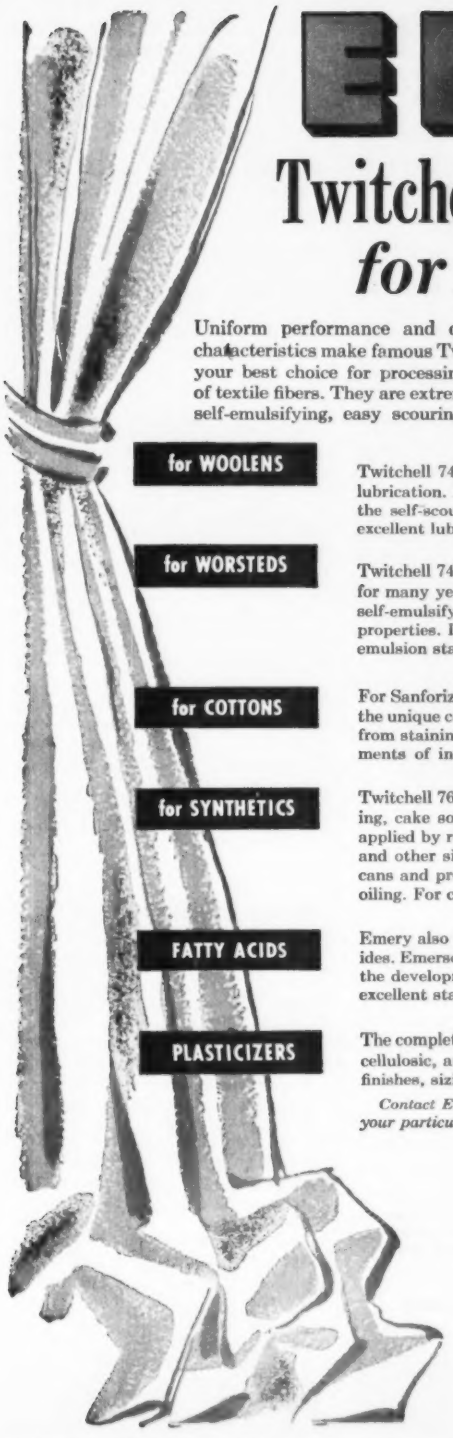
There is some difference of opinion about the depth of rubber that should be applied to the roll, as well as about the required hardness of the covering compound. Roll coverings of 1¼ to 2 in. of rubber are most common. The hardness of the rubber may vary from 55 to 90 on scale A of a Durometer.

Cooling of the rubber roll also helps to maintain life of the rubber. Since the rubber coating is an excellent heat insulator, it is difficult to keep the surface cool by internal cooling alone. In practically all installations for the embossing of free film, the rubber roll is rotated in a pan of flowing water to cool the surface. With coated fabrics, the rubber roll should be practically dry as it meets the fabric. If a water pan is used, the roll may be dried by rotating a small rubber roll under pressure against the backing roll, or with an air jet.

For most embossing, two 6-in. air jacks, using 100 lb. air pressure, are sufficient. If a very heavy fabric is to be embossed in deep grains, particularly if the amount of coating must be reduced to less than the depth of the embossing, more pressure may be required.

Preheat Face and Back

In preheating of the fabric, provision should be made to apply heat to both face and back. Both units should be subject to variable temperature control. If the coating is of sufficient



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Twitchell 7410 is a low-cost, self-emulsifying wool oil providing excellent fiber lubrication. It is especially compounded to minimize staining. Twitchell 7430 is the self-scouring type which requires little or no soap for removal. Provides excellent lubrication for minimum fiber breakage.

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Twitchell 7420 is an exceptionally high-quality worsted oil which has been used for many years to minimize fiber breakage and staining. It scours easily and is self-emulsifying. Twitchell 7421 is a *new, high-quality* worsted oil with *anti-static* properties. Its unique combination of emulsion fluidity, resistance to yellowing, emulsion stability, and excellent scourability, makes 7421 the best value today.

for COTTONS

For Sanforized fabrics or regular finishing, Twitchell 7231, 7240, 7250 each offer the unique combination of fiber lubrication, fast rewetting, softness, and freedom from staining. These vary in degree for each product to meet the varied requirements of individual mills. All are compatible with common finishing agents.

for SYNTHETICS

Twitchell 7681, 7685, 7687 provide excellent lubrication and penetration for coning, cake soaking, finishing, and warp slashing. Self-emulsifiable, they can be applied by roll, spray, or wick. For warp slashing, they plasticize starch, gelatin, and other size films, provide surface lubrication, decrease size deposits on dry cans and provide a better break at split rods. They are also excellent for over-oiling. For crepe soaking, low cost Twitchell 7810 gives uniform pebble.

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thickness and the entire grain must be impressed in the coating without distortion of the fabric backing, the heat should be applied so that the coating is softened throughout. However, if the embossing is to be a lighter coating without cutting through, the coating next to the cloth should not be completely softened while the surface is at normal embossing temperatures. This practice will permit the application of enough pressure to distort the fabric sufficiently to give full grain without spoiling the appearance of the surface.

Embossing of this sort is largely an art. The temperatures required and the amount of coating necessary to produce a satisfactory appearance in a specific pattern can be determined only by experience. In the selection of designs for deep embossings on light coatings, those requiring sharp, straight cuts should be avoided.

Preheating of the coated fabric for embossing may be accomplished in any of the various ways described in the section of this article dealing with the fusion of vinyl coatings. Many operators prefer to use heated drums to apply heat to the back of the fabric and some form of radiant heat to heat the surface.

Many operators feel that contact heating of the back gives better control of the temperature of the coating next to the cloth. Since the fabric tends to act as an insulator, it is reasonable to assume that the coating may be brought to the required temperature, with less possibility of damage to the cloth from overheating, by applying the heat in this manner.

Tandem Embossing—Pro and Con

Many of the advantages of tandem embossing have been previously pointed out. There are some additional advantages and a few disadvantages to consider.

When coated fabrics are to be used in the unembossed state, the luster of the material is often a very important item in determining its suitability for any specific end use. For some items, a dull matte finish is required, but for others a highly polished surface is desirable. Dull finishes can be produced by the use of a smooth matte-surfaced roll in the embossing unit. Bright finishes may be obtained with a highly polished roll. The degree of luster carried by the smooth roll can be transferred to the coating to make possible any required luster with a suitably surfaced roll. While this effect can be accomplished by either tandem or separate embossing operations, it is ideally suited to the former. A smooth roll installed in

DeCetex 104 *the superdurable SILICONE water repellent for synthetic fabrics*

Unable to wet the fibers or to drip through a weave as open as a window screen, water stands like globs of mercury on a piece of DeCetex treated nylon marquisette.

Superior stain resistance is indicated by the way a drop of ink stands like a black bead on a swatch of DeCetex treated acetate rayon sharkskin.

Withstands repeated dry cleaning and laundering. DeCetex is the most durable water repellent finish for acetate, nylon, "Dacron," "Orlon" and blends containing a substantial percentage of such synthetic fibers. Such fabrics, properly treated with DeCetex 104, retain a spray rating of 100 after 10 dry cleanings; 80 to 100 after 3 two-hour launderings.

Resists water-borne stains; improves fabric quality. Fabrics treated with DeCetex 104 have a soft, full "hand" which may be further modified by the use of conventional urea-formaldehyde or other textile finishing resins. They also show good resistance to water-borne stains. And DeCetex treated fabrics are relatively free from "mark-off"; show somewhat better tear, shrink, crease, and shine resistance. There is no decrease in porosity or in the light fastness of dyes.

Easily applied or combined with crease-resistant resins. DeCetex 104 can be applied from either an oil-in-water emulsion, or from a hydrocarbon or chlorinated solvent solution with conventional equipment such as a quetch or a two or three bowl mangle. Maximum effectiveness is generally obtainable from a master emulsion diluted to give a 1 to 2% silicone solids pick-up, based on the air dry weight of the fabric. Optimum water repellency is developed by curing for 4 to 7 minutes at 300-320° F. on light and medium weight fabrics; 8 to 12 minutes on heavier weight or spun fabrics; or 15 to 30 seconds at temperatures normally used to set the fibers in relatively heat-stable fabrics. No corrosive chemicals are involved; no washing or neutralizing is required, and treated fabrics are odorless, even after aging. DeCetex 104 is compatible with crease-resistant resins of the urea-formaldehyde or melamine-formaldehyde type.

DeCetex 104 is a viscous, high polymeric silicone supplied at a concentration of 65% solids by weight in methylene chloride. It is colorless and contains no corrosive chemicals.

For more data on this silicone product that imparts a truly durable water repellency to synthetic fabrics at a cost that compares favorably with that of other high quality water repellent finishes, write for data sheet No. AJ-21.

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CLARK EQUIPMENT has enabled many, many Textile plants to make drastic reductions in handling costs. They are used with great profit in all operations entailing handling, from receiving raw cotton, wool and synthetic components, through processing, storage, shipment and delivery.

It is one thing to learn about these remarkable CLARK machines through the printed word—but it's far easier and better to *see them in action*—yes, and far more convincing.

You can do just that at the great Southern Textile Exposition, Greenville, South Carolina, October 6-11. Arrange to attend; and make a special point of seeing the CLARK exhibit and demonstrations. These are sure and practical steps toward *cutting your own costs to fit your pattern* for bigger, better business.

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the embossing unit can serve as a calender between undercoats.

Tandem embossing is desirable because it tends to prolong the life of the fabric backing as well as the compound by reducing the amount of heat to which it must be subjected. The heating of cloth to 350 to 400° F. in air undoubtedly produces some oxidation of the cellulose. While the temperature normally encountered in the fusion of a plastisol is not enough to produce serious degradation, it is obviously desirable to keep heat exposure to a minimum.

When embossing is a separate operation, the fabric is usually subjected to more tension than is necessary in the tandem operation, and loss in fabric width may result.

Tandem embossing creates a risk of the production of a higher percentage of seconds, for if something in either the coating or embossing operations causes a shutdown, chances of damage to more fabric are considerably greater than when the operations are conducted separately.

Special embossing effects created by controlling the temperature from side to side of the fabric are more difficult to obtain in the tandem operation.

For some decorative effects, it is desirable to print before embossing. This procedure cannot, of course, be followed in the range operation; but when the fusion unit is used as a preheater, the tandem unit can be used as a unit embosser.

A typical tandem-embossing installation is shown in an accompanying sketch. The embossing unit should be installed as close to the fusion unit as possible so that there will be a minimum of cooling between the two units. If for any reason considerable distance must be maintained between the two units, heating units should be installed to maintain the temperature of the coating.

Roller Embossing Is Faster

Roller embossing is preferable to press embossing since it is much faster and there are no plate marks or registration problems. Plate marks can be minimized by skillfully feathering the edge of the bed, but they can never be entirely eliminated. The embossing plates are much less expensive than the engraved rolls. Low-pressure embossing has reduced the size of the engraved roll to the minimum required by the design, has eliminated the expensive matrix roll for each design, has permitted rapid changing of embossing rolls, and has considerably lowered the margin between the cost of engraved rolls and plates.

(Continued on page 288)

How the textile industry benefits from SHOCK-RESISTANT G-E RUBBER-PHENOLICS

Textile equipment parts like these are now stronger and longer-lasting, thanks to G-E rubber-phenolic molding materials. (Cheese core barrel in foreground molded by Barber-Colman Co. Cones and tube molded by Jacobus Plastics Co.)

For plastics parts that must stand up under extra-heavy-duty conditions, specify General Electric rubber-phenolics!

For example, in the textile industry, rubber-phenolic compounds are being used (instead of wood) for bobbins, tubes, pirns and other molded parts requiring exceptional shock resistance. Here are some of the advantages these new plastics materials provide:

1. **Long life**
2. **Uniform weight**
3. **Light weight**
4. **High operating efficiency**

All of which means LOWER COSTS.

Investigate G-E rubber-phenolics! These remarkable compounds offer *five times* the shock resistance of ordinary impact-grade plastics. Use coupon below for free booklet with more details.

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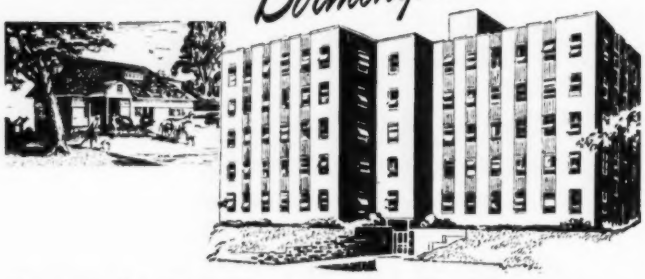

Expands From a Carriage House to a Square City Block in Only Seven Years

SEVEN years ago, Southern Research Institute was opened in a converted home and carriage house a few blocks from the heart of downtown Birmingham—the South's industrial capital and distribution center. Sparked by the dynamic development of the Southern region, Southern Research Institute has grown to be one of the Nation's important nonprofit research organizations. Its staff is composed of highly trained and skilled scientists. In five large modernly equipped laboratories new products and new processes are created and old products and processes are tested and improved.

During its short life Southern Research Institute has handled many research projects for the Nation's biggest industrial concerns as well as for large numbers of smaller industries. Besides working for industry in more than fifteen different fields of technology, it has carried on vital programs for the Department of Defense and Atomic Energy Commission. It has won international recognition for achievements in cancer and virus chemotherapy.

Founding of the Southern Research Institute realized the vision of a small group of progressive Southern business leaders, headed by Thomas W. Martin, Chairman of the Board of Alabama Power Company and Chairman of the Institute since its organization. They saw the need for technological facilities within the South to aid its industries and energize its progress. They worked with tireless effort until their goal was reached.

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(*Continued from page 286*)

Top Coats Increase Abrasion Resistance

Top coatings, important factors in the decoration of coatings, may be applied for utility. For example, in the making of a plastisol, the minimum amount of plasticizer incorporated must be that which is required to produce a dispersion of a viscosity suitable for coating. The surface thus produced is often too soft to give maximum abrasion resistance in service. But such soft coats are necessary to produce the flexibility and drape needed for many purposes. The application of a thin, hard top coat will increase the abrasion resistance and also give the material the dry feel that is desirable.

Such dry top coats may be applied from solution or organisol, where it is possible to formulate with less plasticizer, or by the use of high-molecular-weight ester plasticizers or polymeric-type plasticizers in plastisols. The former are much less efficient at normal temperatures but have sufficient solvency at higher temperatures to fuse in a normal manner. Thus a much harder top coat can be obtained without materially altering operating procedures. The resinous plasticizers, as a class, will give harder coatings, but most of them require definitely higher fusing temperatures.

Some Special Effects

Decorative finishes can be applied by a coating knife or roll, or by printing with an over-all engraved shell. Pearl and metallic finishes are obtained in this way. While metallics can be incorporated in the base compound, pearl essence is too expensive to be applied in this manner except in very light coatings. Luster can be controlled by the application of dull or bright top finishes as required.

Combinations of embossing and top coatings are useful in obtaining attractive decorative effects. Printing and embossing are of value when used together in the same way.

Contrasting colors or lusters may be obtained on embossed coating by covering the tops of the grain with the contrasting coating or by filling in the valleys with a complimentary color or luster. Two-tone alligator finishes are most commonly achieved by coating-in the color of the valleys, embossing, and then printing the tops in the contrasting color and overprinting with a clear coat for luster. Snake finishes can be obtained by printing the design of the specific reptile and then embossing.

Spanish-leather effects are achieved

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This Free Bulletin Points The Way To A World Of New Sales Possibilities Via Model LT/SA

Here's a new Supreme bulletin that gives you a closer look at Supreme's terrific multi-fabric sales-knitter, Model LT/SA.

The booklet shows you the amazing 4-color striped terry. It gives you a close-up of the "knitted-in" adjustable stitch construction that makes the fabric so fluffy and snag resistant. It describes the machine's versatility as a plain or striped terry knitter and tells you how it can be switched over, on the job, to knit the entire Supreme range of plain, patterned or striped jersey.

Included are illustrations of the knitting elements system and the general construction features plus production rates and weight and dimension specifications.

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"First quality goods are even better than they were

"Cost was cut 15% on the inspection"

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IMW inspecting machine for handling up to 36-inch rolls of cloth.

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These features of the IMW machine reduce eye strain and fatigue factors to an absolute minimum, thus assuring maximum efficiency in cloth inspection.

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by coating the fabric in color of the tops. A top coat is then applied in a contrasting color with a sharp coating knife under enough tension to allow the coating to flow into the valleys while the tops are scraped clean.

Two-tone fabric effects are obtained by embossing in a fabric design and then printing the tops with an over-all engraved roll. For example, a very striking effect can be achieved by embossing in a line-pique grain and then printing the raised lines. The indentations retain the original color.

Another method for producing a fabric effect is to print the coating with a woven design and then emboss in a fabric grain to produce the required texture.

By clear coating, woven or printed designs can be protected to give a durable, washable finish. Such materials are used for outdoor furniture upholstery and similar applications.

Training for Synthetics

(*Continued from page 75*)

Training Shows Up Quickly On Filaments

It's in filament yarns that the greatest benefits from training can be shown. A twister that is making one low-twist end, or a tension device on a warper creel that makes a slack or tight end, can ruin a roll of cloth. Fixer training and machine inspection will eliminate defects of this type.

Slasher operators should be trained to quickly put up ends at breaks to prevent hard-size marks. Time in putting up sets can be reduced through training. Better warps can be made if the operators are trained.

Weave-Room Training Pays Off

In most filament-synthetic weaving mills, seconds can be reduced to a small fraction of the previous level if training of loomfixers and weavers is started. If no other value were received from loomfixers' training, having everyone fix looms alike would pay for a training program.

The common loomfixing practice is to let each loomfixer fix looms his own way. With loomfixing training, you will use the loom manufacturer's gauges and loom specifications to set your looms uniformly. You will inspect your looms periodically to maintain the settings—and your loomfixers will do less work.

Management Learns More Than the Employee

Each employee in a plant will gain

for versatility • quality • economy

Cellitons dye:

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Get Longer Apron Life, Lower Maintenance Costs . . .

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Because Bull Dog Rub Aprons are made of a patented, specially formulated synthetic material . . . a material that is stronger and more durable than is to be found in other rub aprons . . . Bull Dogs last longer.

And, because this material has a higher coefficient of friction, you can run Bull Dogs up to 30% slower where only ordinary rubbing is required . . . an added boost to longer apron life . . . and a real advantage to longer condenser life and lower maintenance costs.

What's more, Bull Dog Rub Aprons permit increased card condenser production up to 25% or more and they increase jack-spool capacity 40-50% by weight which results in lower handling charges and longer runs.

For the full story of these and many other advantages you will enjoy with Bull Dog Rub Aprons in your mill, get in touch with your local distributor, or write direct.

Another Quality Product of

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BWH
DEPENDABLE RUGGEDNESS

and learn through training—but the management will gain most and will learn most.

When bad work in the preparation departments is reduced and when weaving seconds are reduced, off-quality work will then show imperfections in the plant machinery. Employee efficiency cannot be any greater than that of the machinery.

Machinery that reduces the possibility of personal errors should be bought: blending equipment, moisture-control instruments for slashers, instruments to measure shuttle tension, stroboscopes, and various laboratory instruments.

Training is the greatest need on synthetics, next to good machinery—and training will show what machinery is needed.

Synthetics on Woolen System

(Continued from page 83)

atively few and any alert carder will not have too much trouble.

The operation of the tape condenser, however, is another story and one of the most important elements of handling synthetic fibers. At no point in the tape condenser, from doffer comb to card spool, should excessive stretch be put on synthetics. What is excessive stretch for each fiber? You'll have to find that out for yourself, but watch for it and err on the side of too little rather than too much stretch. Be sure that there is no stretch, and then tighten up a little to keep the work under control.

Synthetics in general respond well to rubbing. Crimped rayon takes less rub than uncrimped rayon. Orlon, Acrilan, and dynel are harder to rub, and the rub should be set down a little.

The usual setting for the apron rolls is a 26 gauge, with the tension roll in the center set with a 28 gauge. It may be necessary in certain circumstances to set the tension roll up to a 30 gauge. Some of these stocks are very lofty and may cause a little trouble going through the rub motion, and if narrow tapes are used, there may be a joining of adjacent ends as they go through. To remedy this, shorten the stroke or speed up the rub or do both. Sometimes it may be necessary to increase the tension between tapes and aprons a little bit. And it is a good idea to have a static eliminator located directly over the delivery end of each rub band.

Much better results are obtained in spinning all fibers with light-weight card spools. Lighter spools not only decrease the number of ends down in spinning but also maintain a full,

(A Quick Quiz on modern pH advancements)

Do you know these important facts about BECKMAN pH CONTROL?

Do you know...

That Beckman pioneered modern glass electrode pH equipment?

Until Beckman pH instruments were developed, glass electrode pH equipment was a cumbersome, complicated laboratory curiosity. It was Beckman that pioneered today's simple, compact, highly accurate and dependable glass electrode pH equipment!

That Beckman pioneered virtually every major development in modern glass electrode pH equipment?

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That Beckman offers the industry's most complete line of glass electrode pH instruments?

Included in the complete Beckman line are instruments specially designed to combine the high precision and wide versatility necessary for advanced research, medical and laboratory applications . . . others that combine maximum simplicity and high accuracy with complete portability for plant and field applications . . . still others that combine maximum simplicity and high accuracy with the plug-in convenience of full AC operation . . . plus *completely automatic* pH equipment for continuous pH indication, recording and control on large-scale processing applications.

That Beckman also provides the industry's most complete line of modern glass electrodes?

Although glass electrode pH instruments are the most efficient pH equipment obtainable, no glass electrode pH instrument is better than the versatility, accuracy and dependability of the electrode assemblies available for use with it.

Beckman provides the industry's most complete line of glass electrodes for use with Beckman pH instruments—a type of electrode assembly to meet every industrial, research, laboratory and field requirement

There's pH wherever there's water, pastes, sludges or other moisture-containing products. No matter what your field of operations, if you use water solutions of any kind chances are the job can be done better, with less waste, greater uniformity, by Beckman-controlling the pH of your processes. Let us study your requirements and make helpful recommendations. No obligation, of course!

For a helpful outline of modern pH control—what it is, how it's used—send for this free booklet "What Every Executive Should Know About pH."

Ask for Bulletin 1- 12

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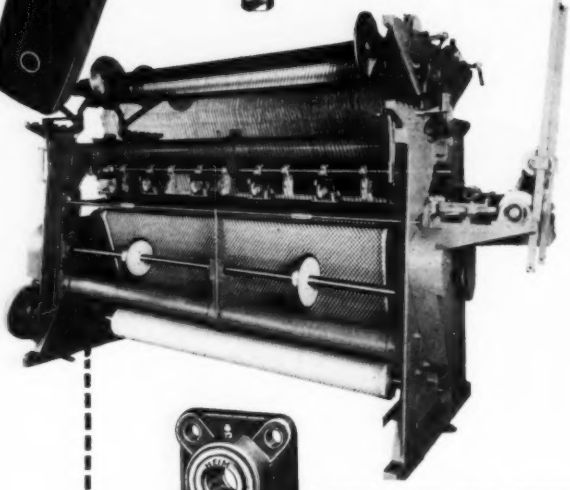

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round roving that gives a more even spin. It is obvious that the first few yards on the spool at the card are the last few yards off the spool at the spinning frame. But it is not as obvious that the center of each card spool is subjected to double compression—once on the card and again on the spinning frame. Unfortunately, most of the synthetics are sensitive to this tendency to flatten, and anything that can be done to cut down the weight of the package is helpful. That the improvement is material we can testify, because we have successfully run spools that were only one-third the weight of the usual wooden card spool and have reached yarn numbers that were impossible to reach with the heavy spools.

The carder must be governed in his roving weight by the draft that is possible for the spinner to use. Cooperation between carder and spinner is essential.

Watch These Factors in Spinning

On fine wools, from 60s up, it is possible to use drafts as high as 1.6. On rayon, drafts between 1.3 and 1.35 give the most acceptable yarn. Crimped rayon can be drafted slightly higher than uncrimped rayon. These factors naturally have an effect on the roving weight delivered by the card.

There is no hard and fast rule about the draft that should be used, because several factors affect the ability of any given fiber in that respect. A highly crimped fiber will submit to higher drafts than one with less crimp or no crimp. Fiber length has a bearing: the longer the fiber the greater the permissible draft. Remember that the length of wool fibers varies considerably, but synthetic fibers are all cut to a uniform length. The average length of the synthetic fibers in a blend, therefore, is usually longer than the average length of a wool fiber. This factor has a bearing on the draft and is also a point to be watched so that the blend does not contain too many fibers that are longer than the width of the tape will accommodate. A failure in this last item not only will cause robbing but also will cause untold annoyance by rolling adjacent ends together in the rub motion.

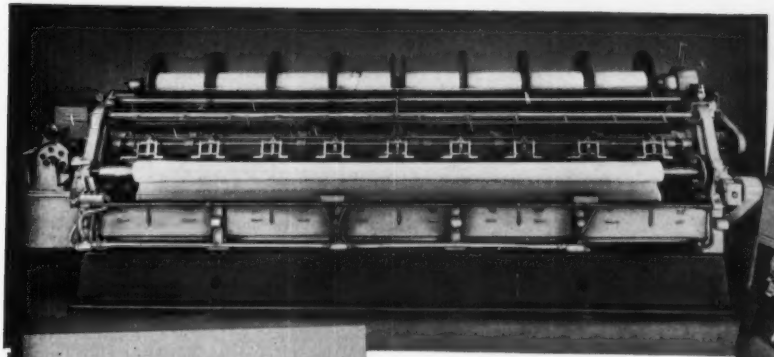
The permissible draft is also affected by the type of finish on the fiber. The slipperiness of a fiber is affected by the different finishes. If the fiber is too slippery, a lighter roving will have to be made. Of course this slipperiness cannot be too severe or the roving itself will not hold together.

Don't Get Discouraged

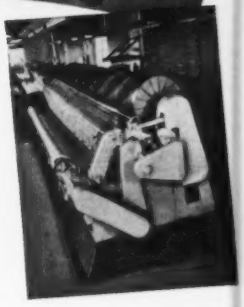
When you consider blends of certain of the newer fibers, you've got to

For more information, write direct or use Reader Service post card.

You'll hit new production records with the Kidde-Aveco Tricot Machine!



Left end of machine showing enclosed gear box, pattern mechanism, motor and the controls.



Right end showing continuous let-down and take-up.

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New Continuous Let-Down
Easy to set and maintain because it's mechanical. Eliminates shade marks, reduces stop marks and improves fabric quality.

New Variable Speed Drive
A turn of a hand wheel varies machine speed. No chain drive . . . no gears to be changed . . . quieter operation. Tachometer included.

New Continuous Take-up
Quality is established by a simple turn of adjustment screw. No gears or sprockets to be changed. No clutch. Once set, it requires no adjustment.

Other Features
These include improved plunger design, improved front guide bar lifting mechanism, quick-stop and jogging control.

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The new Kidde-Aveco Tricot combines the essentials for large production... high operating speed with high efficiency. Speeds up to 450 courses, depending upon the pattern and yarn, are practical and are being maintained in mills today.

Equally important, the Kidde-Aveco Machine has acquired a reputation for low needle breakage. The press action is gentle and the needle life is better than usual. This means fewer defects and less down time. Other factors contributing to efficiency are enclosed cams running in oil . . . a one-piece cast girder that maintains machine alignment . . . and the rugged one-piece base . . . all exclusive Kidde-Aveco features.

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Angle Silk Mills, Rockymount, Va. Photograph courtesy C. M. Guest and Sons, Greensboro, North Carolina

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have an open mind. Some of them are apt to be troublesome, at least until we know more about them. If some of these new fibers lend certain desirable characteristics to the finished article, should they be ignored because they cause the carder and spinner a little difficulty? Definitely not. It is the carder's and spinner's responsibility to learn how to get these fibers into yarn and to take advantage of such valuable characteristics as increased wear life, increased wrinkle resistance, washability without shrinkage, bulk with less weight, freedom from moth damage, and many others.

Continuous Filament

(Continued from page 75)

trolling and recording the viscosity. The total solids of the sizing solution should be about 8.5% when determined by evaporation and about 10% when determined by titration. Along with the viscosity, the rate of flow of the bath is also controlled to about 150 to 200 cc. per min. per machine.

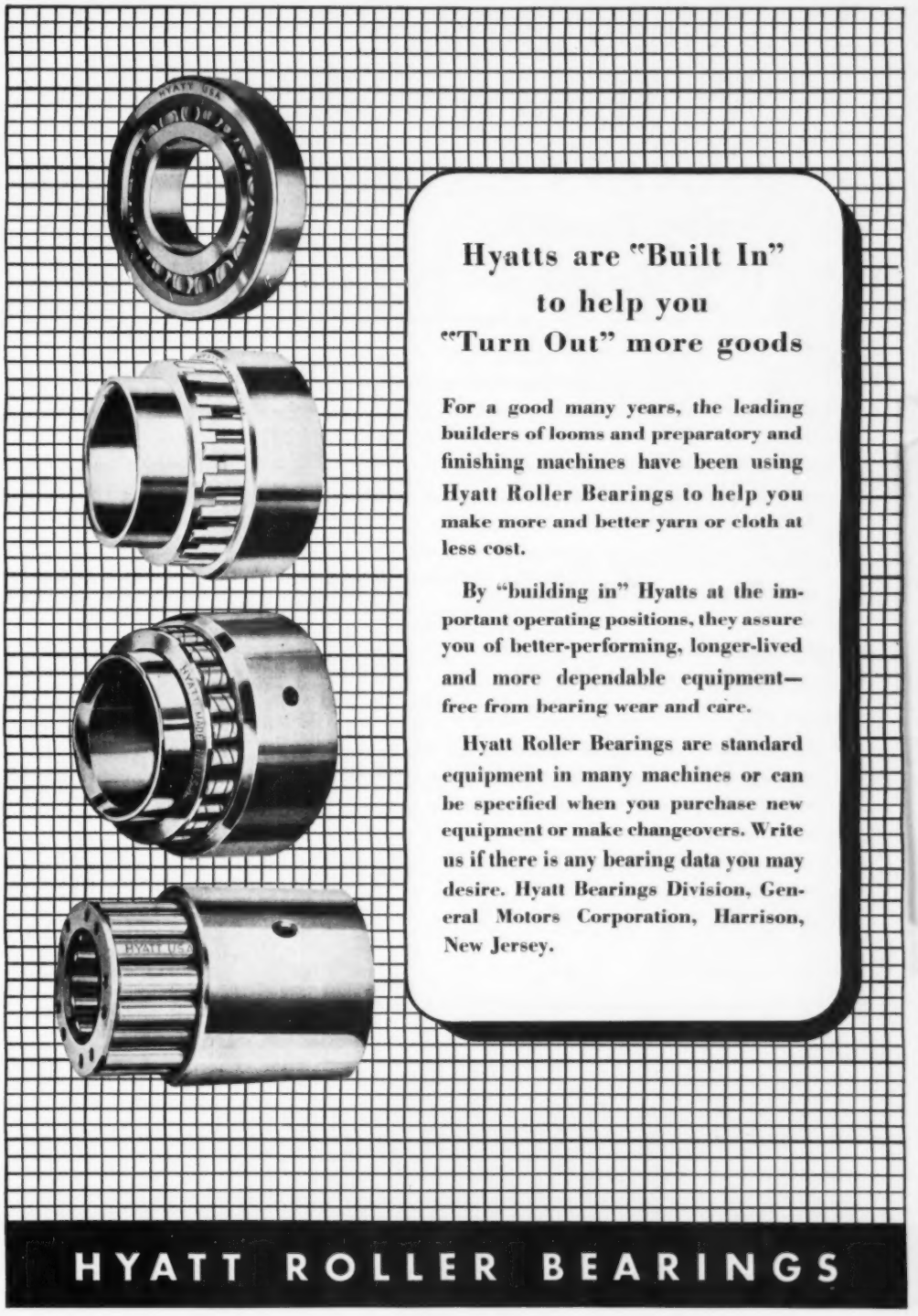
CONDITION OF EQUIPMENT. The speeds and condition of the machines should be checked frequently. The spindle speed of this type of unit usually ranges from 1,200 to 1,300 rpm., which gives a yarn speed in the range of 2,000 ft. per min. The establishment and maintenance of proper speeds for the spindle and emulsion roll is important both for quality and constant pickup of size solution. The angle of the yarn over the emulsion roll is critical. This angle has been established as 5° and should be maintained. The yarn should pass over the roll in a steady path and not vibrate across the face of the roll.

All machine parts with which yarn comes into contact should be inspected frequently for cuts and rough places and should be replaced if found defective. The proper level of size in the troughs should be maintained, and overflow spouts should be adjusted so that size contacts the face of the emulsion roll but does not flow inside the lips of the roll.

The size system and machine parts upon which size has deposited should be cleaned and flushed frequently. The size system is usually flushed on a weekly schedule, but it may be necessary to clean tension devices and guides more frequently.

Coning Is Troublesome To the Throwster

The coning of nylon is the one process that probably gives the throw-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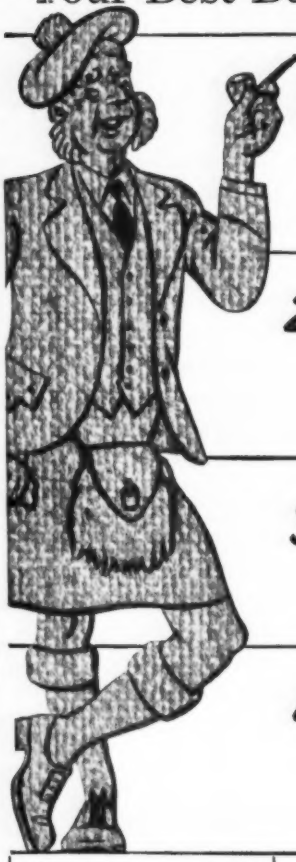

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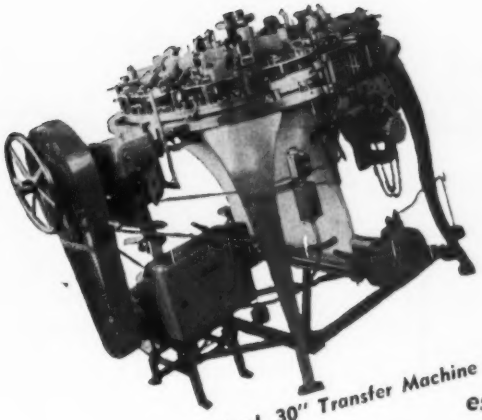
ster the most trouble. This trouble stems from the low tensions that must be used in forming the headless type of package and the almost perfect package demanded by the knitters.

The machines most commonly used for coning nylon are the Foster Model 75 and the Universal Model 50. Both machines are equipped with pineapple attachments and roller bails. The pineapple attachment is used to build a package tapered on each end, a desirable feature both from an unwinding standpoint for the knitter and from a winding standpoint for the building of a satisfactory cone with low tension. The roller bail is necessary when winding yarn with a low tension. With the roller bail, back pressure is evenly distributed over the full length of the cone—a condition not present when a coning button is used to apply the pressure. In addition, very little if any tension is added to the yarn by the roller bail as the yarn is wound onto the cone. With a coning button, the tension build-up at the button is prohibitive when winding nylon. Also, the tension build-up at the button is very difficult to measure accurately.

The tension normally used when coning nylon yarns other than 15 den. is 4 to 8 grams. The exact tension to use for any specific denier depends upon the amount of twist in the yarn, machine settings, and atmospheric conditions in the winding area. The back pressure normally used ranges from 25 to 35 oz. The values given for tension and pressure are for the start-up of the empty cone.

The let-off device for the tension should be set so that the tension device is out of action when the cone is filled. This setting assures a gradual let-off of tension and compensates for the increase in tension as the winding speed increases. The increase in winding speed is much higher than is commonly realized. For example, the winding speed at the start-up of an empty cone is about 150 yd. per min., depending on the size of the cone. The increase in winding speed is accompanied by a corresponding increase in tension, and to compensate for this increase the tension applied by the washboard device must be reduced. The tension and pressure should be so balanced as to produce a cone with an average hardness of approximately 40 to 50 as measured by the Shore Densometer. This cone is rather soft as compared to a viscose cone that usually measures from 60 to 70.

Tension and pressure are the major differences when processing nylon as compared with other continuous-filament synthetics. However, the



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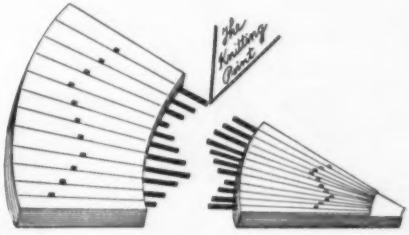

On the Leighton "outer dial" (left) the needle butts are wider apart than the gauge. Each needle nearly completes its stitch before the next one starts. You can knit heavy or fine yarns on the same gauge machine.

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winders should be checked at frequent intervals for points that are likely to cause off-standard or defective cones. The atmospheric conditions for winding should be 75 to 80° F. and 60 to 65% r. h.

Little Done with Dacron and Orlon

Very little work has been done by the textile industry on the processing of continuous-filament Dacron and Orlon yarns. This lack of work is due primarily to the fact that these yarns are not commercially available in large quantities. The production of these fibers has been limited to pilot-plant operations, and most of the fiber produced has been in staple form.

However, from information that is available, it appears that both Dacron and Orlon can be processed in filament form without serious difficulty, with the possible exception of static electricity. To combat static, special antistatic finishes can be used, and the processing should be at fairly high humidity (60 to 70%). In processing these yarns, the standard precautions for all filament yarns should naturally be observed—tension control, keeping machines in good condition, replacing worn tension devices and guides, etc.

Settings, speeds, and room conditions normally used for nylon are a good base point in handling Orlon and Dacron. Two major considerations in throwing Dacron are (1) selection of hard-surfaced guides to resist a higher incidence of cutting, and (2) selection of proper size.

Trends in Synthetics

(*Continued from page 72*)

lonitrile, is relatively easy to make. Current expansion of production facilities will lower the cost. Another advantage lies in the limitless number of copolymers that may potentially be used. Orlon is 100% acrylonitrile, and as such has advantages in its high chemical resistance, excellent strength both wet and dry, and low specific gravity, which gives greater bulking power. The dyeability is poor (as yet) and the tendency to burn is said to be considerable. The hand is lifeless, unless judiciously blended.

Copolymerization with various vinyl compounds, such as vinyl chloride, vinyl pyridene, vinyl acetate, and a limitless number of possible others will remove these disadvantages and eventually lead to a technology of fiber architecture that will permit tailoring of fibers to any specifications.

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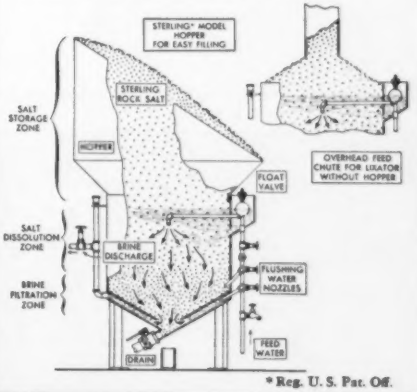

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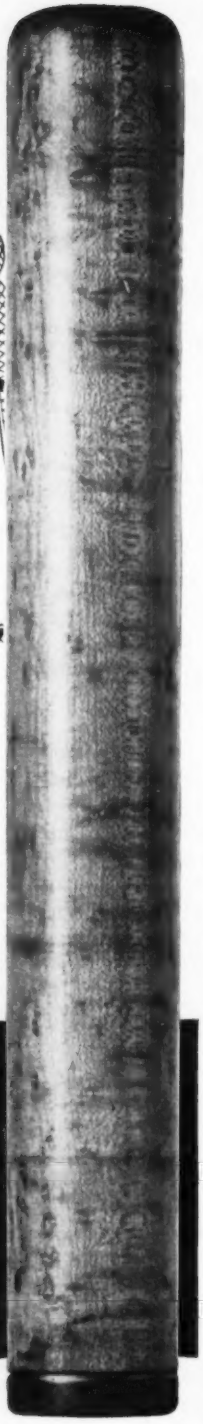

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man-made fibers are: basic material cost, initial investment in fiber-producing plants (which seems inordinately high in these days of inflation), the need to amortize the investment, increasing customer demand, growth of population and higher living standards, military and industrial uses, and the stability of prices. Though some factors are negative, the total of these forces is tending to promote and force the acceptance of synthetics by consumers and mills.

Spun Rayon

(*Continued from page 73*)

that, it would be wise to put up a temporary partition of cotton cloth or burlap stretched on a wooden frame or perhaps a temporary partition made of light plywood.

What About Humidification?

Humidification, accurately controlled, is essential in processing spun-synthetic yarns. The better the controls, particularly in summer, the better the processing. Cotton mills that have humidification systems with some form of cooling incorporated will find this system even more valuable to them for synthetics—particularly rayon, acetate, and nylon—than for cotton.

Both temperature and moisture affect the fibers and their processing. Every cotton-mill man knows what too much or too little humidity does to his roving, spinning, and weaving. In general, the effects are multiplied in the case of synthetics.

At standard conditions of 70° F. and 65% r. h., moisture regain of some of the more common synthetic fibers, in comparison with cotton, is:

Cotton—7(%)
Viscose—13
Acetate—6
Nylon—3.8
Orlon—0.9

It is apparent that at the humidification conditions set for cotton, viscose will pick up considerably more moisture than cotton does; while acetate will pick up a little less, nylon considerably less, and Orlon almost none.

Excessive summer heat, by raising the temperature in the rooms considerably above 70°, has the effect of increasing the absorbent qualities of the fibers. The result is that you are quite likely to maintain too much humidity, particularly for viscose.

Until recent years, the most common method of providing the humidification necessary in textile processing was by use of a humidifier head through which moisture was blown by

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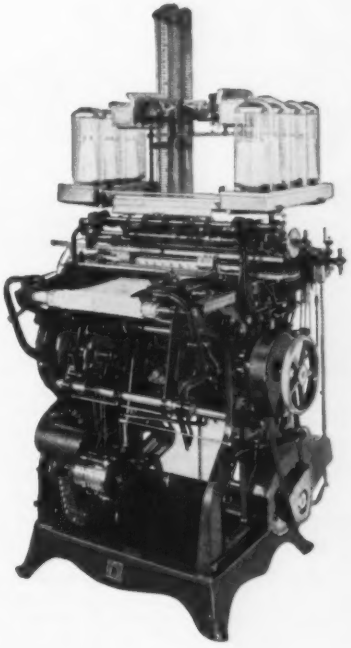

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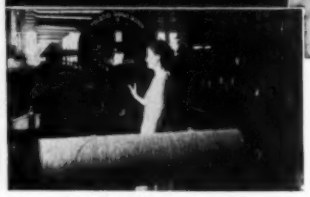

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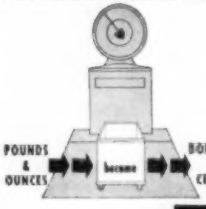

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compressed air into the area to be humidified. The limited accuracy of humidity control and the small amount of comfort cooling of this system brought about the development of two systems that overcome these disadvantages.

These two systems are humidification with evaporative cooling and humidification with refrigerated cooling. Both systems use large quantities of outside air, which allows windows to be closed in old buildings and eliminated in new buildings to permit closer humidity control.

The cooling derived from evaporative cooling is obtained by the evaporation of entrained moisture in the air, which cools the air. In this system, it is not always possible to get the desired room temperature, but relative humidity may be controlled very accurately.

Humidification with a refrigerated system has the advantage that any desired room temperature, as well as the desired relative humidity, may be obtained.

Either of these two systems will serve very satisfactorily in processing synthetic fibers.

Take It Easy in Processing

Machinery used in processing cotton fiber will process synthetic fiber, provided the staple length does not exceed that for which the machine was designed, which is ordinarily about 2¼ in.

Synthetic fibers with a staple length greater than that of long-staple cotton cannot be processed on standard cotton-type equipment because sufficient drafting-roll spread cannot be obtained.

OPENING AND PICKING. Opening and picking equipment designed for cotton must be modified considerably to change successfully to synthetics. The modification consists mainly of eliminating the emphasis on cleaning and paying close attention to opening and blending.

Several methods of blending may be used when two or more synthetic fibers are to be blended. One of the most common methods is the sandwich mix in which the stock is laid out behind the hopper feeders in layers of the different fibers. Bunches are taken from this stack of layers in "bites" from top to bottom in an attempt to take the same amount of the different fibers in each bite and feed it to the hoppers.

Another method of blending, not generally found in a cotton mill, is that in which a single feeder equipped with a weighing box is employed for each type of fiber to be blended. The

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weighing box measures the proportions of the blend. This system is being used more and more in mills manufacturing synthetic yarns.

The importance of good blending cannot be overemphasized. Because of different running qualities and particularly of different finishing properties, a blend of synthetic fibers of different types or of cotton and synthetics will most certainly end up as a run of rejected cloth unless the mix is blended properly.

This danger is multiplied when nylon or an acrylic-type fiber goes into the blend.

Since practically no real blending can be done after the stock passes the picker room, attention given to blending in the opening and picking line will be time and money well spent.

Synthetic fibers will not stand the beating that cotton fibers must receive for cleaning; consequently, beater speeds should be reduced to prevent damaging the fibers and making an excessive amount of neps. Only Kirschner beaters should be used because they open the fiber better and do less damage than either a Buckley or a blade beater.

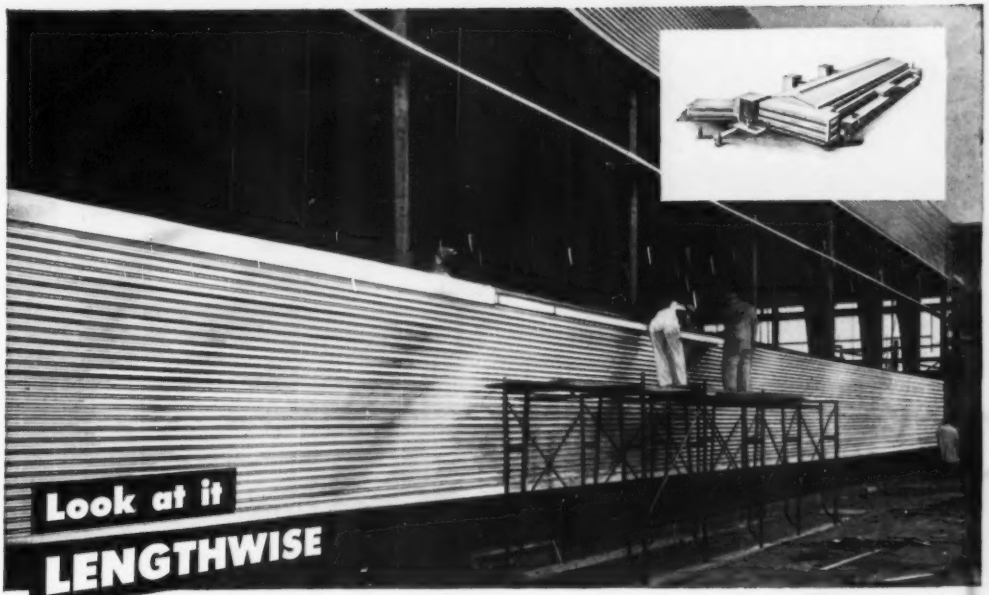
The grids under the beater should be closed or removed and replaced with a metal pan. The distance from the beater to the feed rolls must, of course, be set for the staple length. In some instances, it has been necessary to reduce the weight of the calender rolls in order that synthetic-fiber bunches would not be crushed.

CARDING. The revolving-flat card is quite satisfactory for processing synthetics. All settings must be adjusted to the particular staple length to be processed and generally the lickerin speed is reduced, the cylinder screen moved farther away from the cylinder, and the mote knives moved to a more nearly closed position.

The clothing ordinarily used for processing cotton will produce good carding on most deniers of synthetics. However, coarser-denier fibers can be processed better with a coarser clothing on the cylinder and flats than is normally used on cotton fibers. As a basis for estimating the size of wire, remember that the cotton fiber is about 1.5 den. in size. A 100 or 110 clothing wire is all right for fiber up to about twice as coarse as cotton, say, 3.0 den. Above 3.0 den., you will get better results with 90 clothing wire.

Length of the staple doesn't matter, so far as the size of the clothing wire is concerned.

FOUR-ROLL DRAWING has a maximum roll spread of about 1½ in. This roll spread is not sufficient for



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Both as siding and as roofing (vertically applied) this material saves substantially on labor costs. It is light weight, easy to handle... workmen like it. In addition, aluminum reflects radiant heat ...keeps interiors up to 15° cooler in summer and warmer in winter.

Plan your next construction with this high-strength aluminum that never rusts, resists corrosion.

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Specifications:

Thickness .032"
Weight 56 lbs. per square
Corrugations $\frac{7}{8}$" deep, 2-$\frac{2}{3}$" crown to crown
Roofing width 35", coverage 32"
Siding width 33-$\frac{3}{4}$", coverage 32"
Lengths 5', 6', 7', 9', 10', 11', 12'

Military demands for aluminum limit supply, but Reynolds is rapidly expanding aluminum capacity. Rated orders receive priority handling.

REYNOLDS *Lifetime* ALUMINUM INDUSTRIAL CORRUGATED

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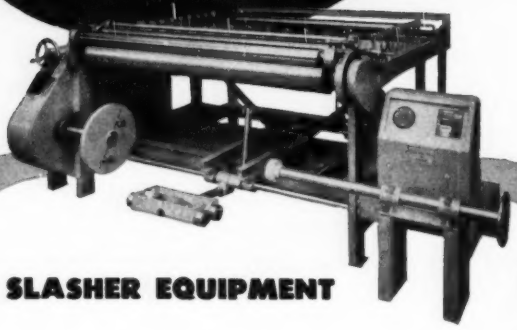
INVESTIGATE
Tower
TEXTILE EQUIPMENT



SLASHER EQUIPMENT

High speed production is the keynote of Tower Slasher Equipment. Warp sizing costs are reduced. Uniformity in both the sizing of yarn and the winding of loom beams is assured by these modern TOWER units. Advanced size box designs and complete instrumentation give quality control at all speeds. Turned and polished rolls, anti-friction bearings throughout and welded steel frames maintain perfect alignment at continuous high speed operation. Multi-motor drive precisely controls tension and stretch from creel to loom beam.

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most synthetic fibers, since they normally are longer in length. Three-over-four drawing will give a roll spread of about 3 in. and is satisfactory for a great percentage of the synthetic staple being run at present. Fibers longer than 3 in. in length are generally processed on combs or pin drafters (the worsted spinning system).

Normally, the diameter of the front roll should be increased to prevent excessive lap-ups.

The top rolls may be covered with leather, cork, or synthetic materials ordinarily used on cotton. However, extremely coarse-denier synthetic fibers have been processed with metallic top rolls with good results.

Much more static will be encountered in processing synthetics. It may be handled very effectively by static eliminators or by treating the fibers with one of several antistatic solutions now on the market.

ROVING. Any of the modern long-draft roving frames will process synthetic fiber satisfactorily within the limit of its roll spread. Special roll stands that give a roll spread of about 3 in. have been developed for cotton frames. Recently, several worsted-type frames have been introduced that will process staple of about 7 in. in length.

The twist gear on a cotton frame will have to be changed because less twist is required for coarse-denier fibers and more twist required for fine-denier fibers than for cotton.

The lay gear will also have to be changed because the strands of synthetic roving will lie closer together on the bobbin.

An advantage to be obtained in processing synthetic roving is that higher drafts and speeds may be used than are possible with cotton.

SPINNING. The same facts found to be true for roving are also true for spinning; namely, the drafting arrangement and roll spread determine the length of staple that may be processed, less twist is required for coarse deniers and more twist for fine deniers, generally higher drafts and speeds are practical, and the diameter of the front roll must be increased to prevent excessive lap-ups.

WARPING AND WINDING equipment must be equipped with guides, tensions, etc., that will not chafe or damage the yarn by friction.

Generally, less tension is required on synthetic yarn; and slub catchers must be set closer to be effective.

Speeds at which winding and warping equipment may be operated are

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Ahcoquinone Fast Grey BBLW dyes exceptionally well on wool, worsted, nylon or acrylic fibres. It is also very suitable for shading of chrome dyes.

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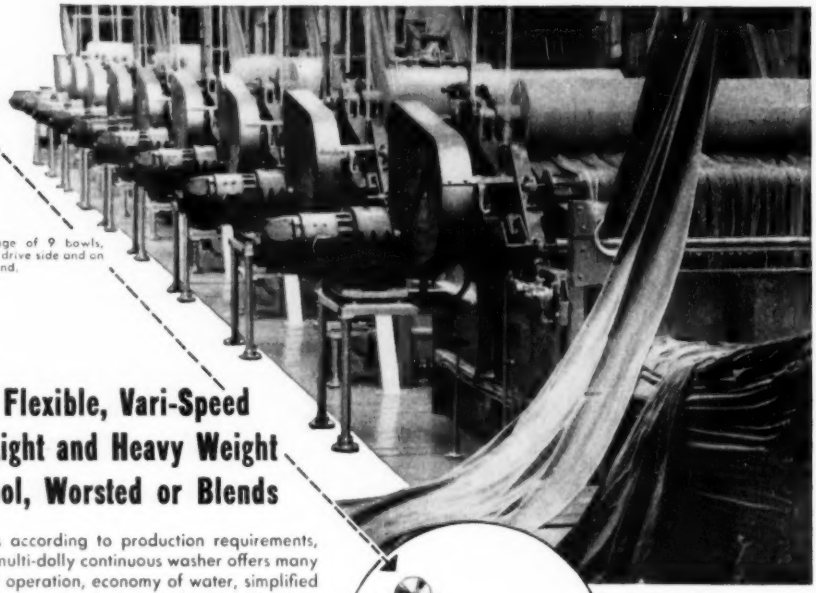
NEW LAXLOOP CONTINUOUS WASHER

PAT. APPLIED FOR

with FREE-LOOP Electri-matic Compensators



Complete range of 9 bowls, seen from the drive side and on the entering end.

An Improved, Flexible, Vari-Speed Machine for Light and Heavy Weight Fabrics of Wool, Worsted or Blends

Made in various sizes according to production requirements, this newly developed multi-dolly continuous washer offers many advantages in ease of operation, economy of water, simplified automatic synchronization, accessibility and reduced labor. Among the many improvements over existing washers are:

1 Stainless steel construction throughout.

2 AC-DC drive with rheostat speed control — no side shaft to prevent easy accessibility. Variable speed according to number of bowls and operating conditions.

3 Positive counter current flow, with constant uniform pre-determined liquor level in each tub. Made possible by R & L stainless steel Flooded Suction Low Head Pump.

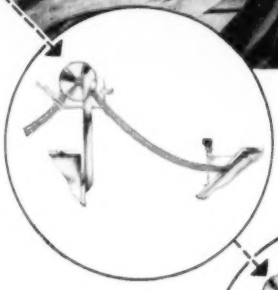
4 New shape of tub for smoother operation and fewer stops for rethreading.

5 Each unit kept in step by the new Riggs & Lombard FREE-LOOP Electri-matic Compensators. Cloth is tensionless throughout the range. Threading is faster and easier.

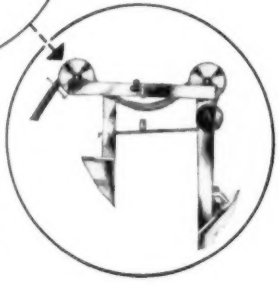
6 Folding or plaiting cleat rolls provided for smoother operation and uniform treatment.

7 Provision can be made for flow of liquor to stop automatically when machine stops, effecting increased hot water savings.

8 Cloth fully protected against damage by electric stop motions.



FREE-LOOP Electri-matic Compensator, Bar Type — When two loops of cloth complete electrical circuit by making contact with two metal bars, main drive on next tub speeds up or down as required.



FREE-LOOP Electri-matic Compensator, Trip Type — Loop of cloth runs in a synchronizing position between two electric eye units. When loop intercepts the proper beam, drive on the next tub changes speed as required. Trip bars can be used instead of photo-electric cells.

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practically the same as for cotton yarns.

SLASHING. To obtain uniformity, controls for size level, cylinder temperature, and moisture content should be installed on the slasher. Synthetic yarns must be dried at a lower cylinder temperature than cotton yarn; and in order to obtain sufficient drying capacity on a conventional two-cylinder cotton slasher, it may be necessary to add a third cylinder.

Caution must be exercised and suitable methods employed to prevent excessive tension on the yarn after it has been to the size box and before it is dried on the cylinders. Some synthetics lose a great portion of their strength upon being wet, and excessive tension will damage the yarn by overstretching. The drives should be controlled so that yarn stretch can be held to 1 to 2%.

WEAVING. Certain changes should be made to a cotton loom upon which spun synthetic yarn is to be woven. The most important of these changes are as follows:

Perforated take-up rolls should be replaced with larger-diameter rolls covered with composition rubber or similar material. Composition-covered temple rolls should replace pin temples. A plush-covered shuttle race to prevent chafing should be used, and fur should replace brush tensions in the shuttle.

Overcrowding in the harness will cause chafing, as will heddles that do not present a smooth surface to the warp yarn.

Each type of synthetic fiber will present problems not encountered in other synthetics, and the settings of the machines throughout the entire mill must be set to overcome these individual problems. The items covered in this article are those common to all synthetic fibers and must be taken into consideration when a plant converts from a cotton to a spun-synthetic operation.

Filling Control

(*Continued from page 76*)

caused by the tension on the shuttle eye and the tension on the shuttle yarn, the shuttle tension should be set to prevent tight picks rather than to eliminate slack picks.

The eye tension should be set just tight enough and the grade of fur selected should be just heavy enough to keep the filling from flying around loosely outside the shuttle. The fur should apply the same tension to an almost empty bobbin of filling as to a

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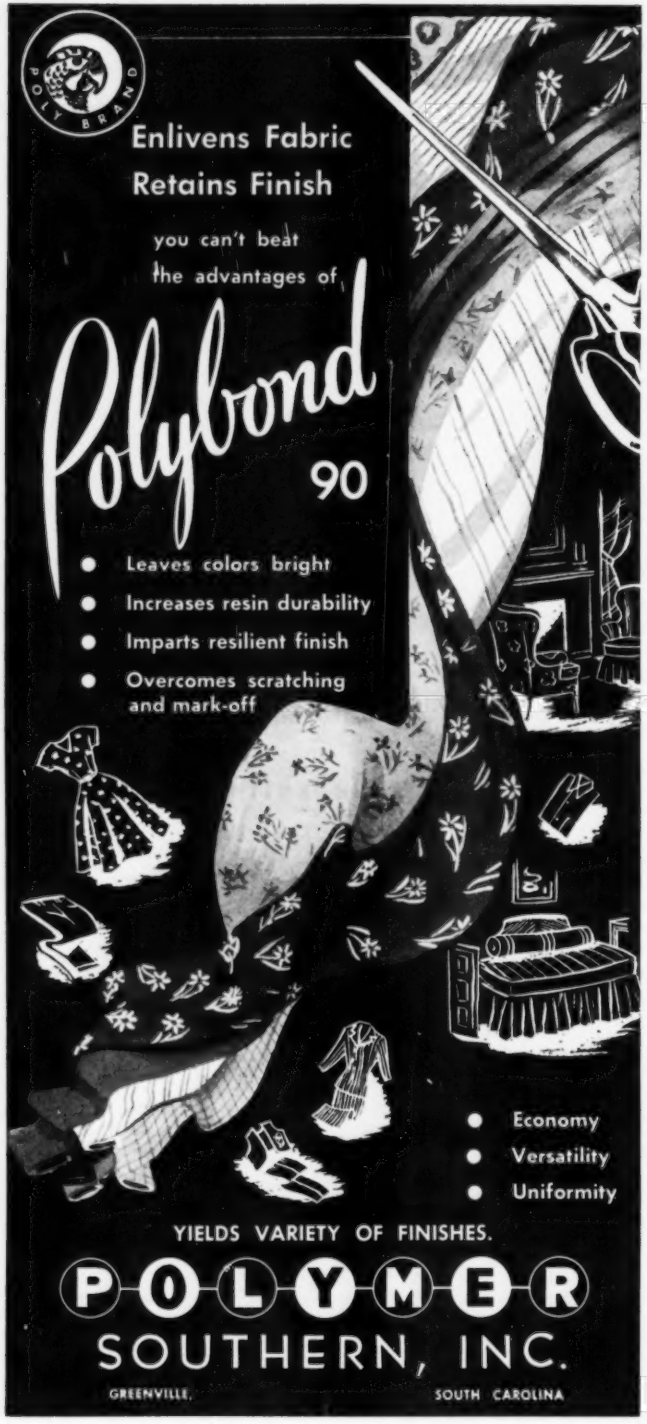


full bobbin of filling. The fur may have to be tapered to obtain this result.

The eye tension must be light enough to permit the passage of filling knots.

If tight picks are eliminated from cloths woven from synthetic yarns, selvage-end breakage, and filling-end breakage will be greatly reduced.

Setting Knowles Head

(*Continued from page 93*)

If the harnesses cross at front center, the harness cylinder gears will be even with the teeth of the box-motion cylinder gear. This setting is unusual and is not used except to lock in picks of filling that have a tendency to kink.

The other extreme setting in harness crossings results when the harnesses cross $2\frac{1}{2}$ in. before front center. At this setting, the harness cylinder gear will be $6\frac{1}{2}$ teeth ahead of the box-motion cylinder gear.

This table shows the settings of the harness cylinder gear to the box-motion cylinder gear at different harness crossings:

Harness cylinder-gear teeth ahead of box cylinder gear	Distance from reed to fell of the cloth (absolutely front center)
$6\frac{1}{2}$	$2\frac{1}{8}$ (in.)
6	$1\frac{15}{16}$
$5\frac{1}{2}$	$1\frac{3}{4}$
5	$1\frac{5}{8}$
$4\frac{1}{2}$	$1\frac{3}{8}$
4	$1\frac{3}{16}$
$3\frac{1}{2}$	1
3	$\frac{13}{16}$
$2\frac{1}{2}$	$\frac{5}{8}$
2	$\frac{7}{16}$
$1\frac{1}{2}$	$\frac{3}{8}$
1	$\frac{1}{16}$

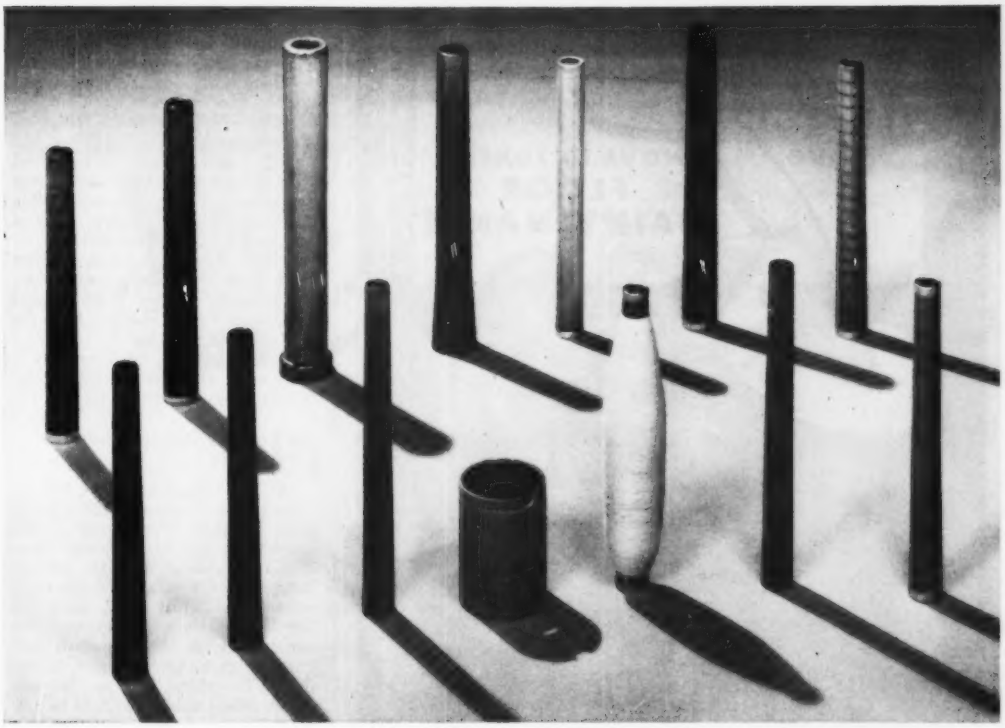
Each half tooth that the harness cylinder gear is moved in relation to the box-motion cylinder gear represents an average of $\frac{3}{16}$ in. There is a slight variation in this figure because of the eccentric-gear movement. Very close calculations can be made on harness crossings if the eccentric gears are set to each of the four timings and the distance of the reed line from the fell of the cloth is recorded at different tooth settings.

Like the eccentric-gear setting, the harness-crossing setting should be predetermined for a certain weave before any attempt is made to set the harness-crossing position.

Example

Here is an example of the setting of a spun rayon plain weave of average beat-back:

With the box back set $9\frac{1}{2}$ in. from



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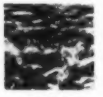
2 **Makes floors easy to clean.** Fast, low-cost "dry cleaning" with a Tennant Machine keeps floors bright, durable. Only daily care is dry mop sweeping.

3 **Cuts accident costs.** Helps keep floors DRY and safe. Aids morale.

4 **Makes floors last longer** by protecting against dampness, decay and wear.

5 **Helps prevent losses** of yarn and cloth from splinter-snags and dirt.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HERE'S WHAT HAPPENS when you stop scrubbing your floors and switch to economical Tennant "dry cleaning."

Microphoto at left shows typical surface of a scrubbed floor. Note how water has broken down top wood structure and caused rough, jagged, dirt-catching splinters. This makes floor hard to clean, and it breaks down rapidly under heavy traffic.

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the breastbeam, disengage the upright-shaft clutch.

Loosen the two setscrews in the top harness cylinder shaft gear, and set the gear 6½ teeth ahead of the box-motion cylinder gear. Retighten the two setscrews securely.

Turn the cylinder-gear handwheel clockwise until the first tooth of the top harness cylinder gear engages the vibrator gear. (The pattern chain is on the pattern-chain cylinder).

Loosen the two setscrews in the bottom harness cylinder gear, move the gear until the first tooth engages the vibrator gear, and retighten the two setscrews securely.

With this setting, the harnesses will cross when the reed line is 2¼ in. from the beat of the cloth.

4. Time the Pattern-Chain Cylinder

With the top and bottom harness cylinder gears contacting the vibrator gears, loosen the two setscrews in the chain-shaft gear (all timing pins should be in place), move the pattern-chain shaft clockwise until the risers reach their highest point, drop the risers back slightly, and retighten the two setscrews in the chain-shaft gear just enough to hold the gear to the shaft. To prevent breakage, the setscrews should not be too tight to prevent the gear from slipping on the slip key when the pattern chain hangs.

5. Time the Harness Cylinder Lock Knife

With the lay set for a 9½-in. box-back to breastbeam clearance and with the harness cylinder gear against the first tooth of the vibrator gear, loosen the two Allen setscrews in the cam roll and set the cam roll with the lock knife just "in." Retighten the two setscrews, and turn the cylinder-gear handwheel until the vibrator gears complete their movement. The lock knife must stay in until the vibrator gears stop moving and must return to the "out" position before the vibrator levers start to change position.

6. Time the Box-Motion Cylinder Lock Knife

Move the lay position back to 11 in. from the box back to the breastbeam.

Set the box-motion cylinder cam roll and the finger. Time the box-motion lock knife to the box-motion vibrator levers in the same manner in which the harness cylinder lock knife was timed.

Re-engage the upright shaft clutch, and the loom is ready to run. No further adjustments or checking are necessary.

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Pointers for Supervisors

(Continued from page 136)

advancement. Many outstanding workers simply will not bow and scrape even to get ahead on the job.

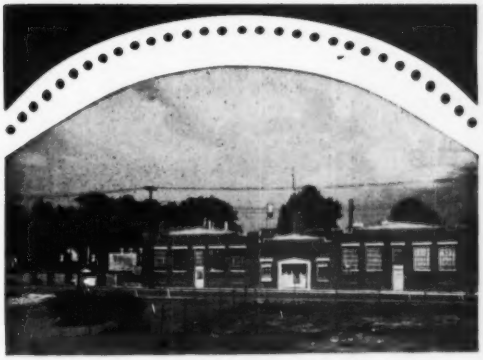
Other supervisors can take untold amounts of flattery from their workers. To such a foreman, even a poor worker may wear a halo because he knows how to flatter his boss. Or if a man has women working for him, he may be taken in by a pretty face, and his judgment of other qualities may be warped by the one quality of beauty.

Less easy to recognize in ourselves are the more subtle ways our judgment about the whole person may be wrong because of our judgment about one characteristic. It's hard for a foreman to judge properly the work of a man who is always complaining or, for that matter, of one who is always pleasant to have around. Likewise, it's hard to give proper rating to a young worker who may be in line for the foreman's own job, or to an employee who has ideas with which the foreman violently disagrees.

Every reader can think of examples of these problems from his own experience. The important step, however, toward improving our judgment of those we supervise is to recognize the danger of the halo effect in making sound ratings. This calls for self-examination and self-criticism, but without this recognition of the danger, methods for avoiding the danger are useless.

What To Rate

Having recognized the danger, a supervisor can take steps to help keep the halo out of his ratings. Formal rating systems have these precautions built into them. However, at least half the foremen in our industry are not using formal plans. The proper steps can nevertheless be taken. A foreman can easily select several characteristics that he feels are important for success on the job. Perhaps speed of movement may be necessary, or carefulness may also be needed. It may be regularity in attendance or ability to work with a group that seems important for a particular job. In selecting characteristics to be judged, you must take care to omit items about which facts can be readily assembled. When facts are available, judgment is not necessary. For example, if attendance regularity is important, absentee records give the facts. The foreman's judgment, therefore, is not necessary. If quality of work is essential, records of seconds should be sufficient proof to be considered when a decision about



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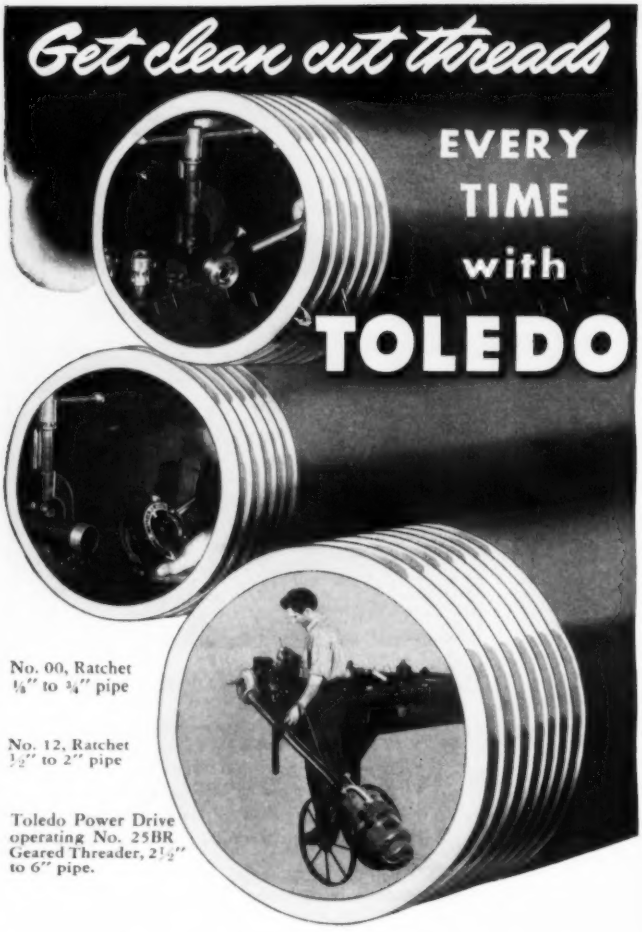

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a worker must be made. There will nevertheless be many factors or characteristics upon which no records are available, and therefore judgment must be used.

How To Rate

When the factors or characteristics have been selected, the temptation to judge a person by one of those factors has only been lessened, not entirely eliminated. Another check upon the halo tendency is to rate each worker on the same characteristic, then return to rate each on the next until a decision has been reached on each factor. I have seen professors, for example, grade examinations by rating all students on question one before grading question two. This is the same principle as the one involved in rating each worker on one characteristic before moving on to rate each on the second.

The supervisor who understands the danger of rating a worker upon one likable or unlikable characteristic, who rates each worker on several characteristics, and who rates all workers on one characteristic before moving on to the next factor will certainly help his judgment of those whom he must judge. Each foreman must recognize that human judgment, however well disciplined, is still liable to be in error. Those of us who are responsible for the work of others can only seek to recognize the difficulties and seek to improve our judgments by knowing the best methods for doing that part of our jobs.

Books of Interest

Harvard Study On Newer Fibers

THE NEWER MAN-MADE FIBERS, A Prospectus for the Apparel Textile Industry, by James T. Jensen, Richard F. Kaufman, Edward L. Perkins, Lawrence R. Robinson, Walter P. Stern, and Myles S. Spector; Harvard University Graduate School of Business Administration, Cambridge, Mass.

This 132-page report is an excellent investigation and appraisal of the factors bearing upon the development of the newer synthetic fibers and their use in the apparel field. Interesting conclusions are given on the effect these newer fibers

For more information, write direct or use Reader Service post card.

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COLD DIP PARTS CLEANER

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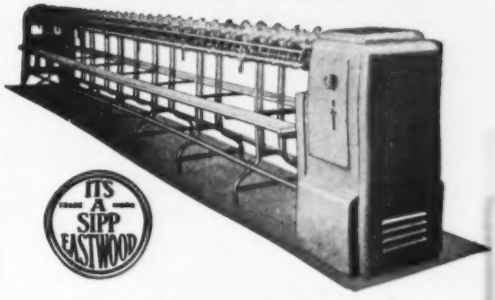

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- **SELF-OPENING SPINDLELESS ATTACHMENT**
- **FULL SPOOL STOP MOTION**

Deliberately designed for perfect spools at higher speeds and greatest possible automatic operation. This brand new winder-redraw requires a minimum of attention during operation and is easy to clean and maintain.

Features:

1. Washer type self-threading tension fastened to traverse rail is easily adjustable and quickly cleaned. Eliminates all threading operations.
2. Gate type tensions available with self-threading Alsimag guides for nylon.
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Full Spool Stop Motion

Gate Type Tension

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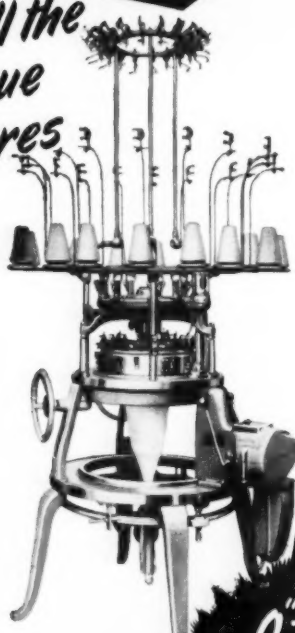
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will have in the future on the processing, distribution, and consumption of textiles.

Chapter heads of special interest to mill men include (1) the importance of the newer fibers to the mills, (2) the competitive position of various fibers, (3) the future of man-made fibers—research-wise, (4) latest processing methods, and (5) future developments in fiber processing.

150 Years Young And Still Growing

DU PONT, The Autobiography of an American Enterprise, by E. I. du Pont de Nemours & Co, Inc; Charles Scribner's Sons, 597 Fifth Ave, New York; cloth, 138 pages, $5.

For 150 years the Du Pont organization has been one of the leading American industrial enterprises. This book was prepared as "a living record" in pictures and text of the company's role in the development of our country up through the years.

From a single powder mill to a national institution, with a research budget now running annually over $45,000,000, the company now has half its gross sales in products unknown 20 years ago. A high percentage of these new products is used in the textile field.

For the man interested not only in the growth of an American dream industrially, but also socially and economically for the benefit of all consumers, this book is a handsome record.

Color Films on Instruments, Metallic-Card Clothing

INFORMATION AT WORK, 30-min. full-color film; Taylor Instrument Cos., 95 Ames St, Rochester, N. Y.; no charge for booking.

Textile people concerned with the specifying and purchasing of control instruments will be interested in this 30-min. color film that traces the development of such instruments, from those that do a relatively simple job to latest models that indicate, record, and control the most complex processes.

The film is available from the public-relations department of Taylor Instrument Cos.

MODERN COTTON CARDING, 20-min. sound and color film; Proctor & Schwartz, Inc, 710 Tabor Rd, Philadelphia 20, Pa., no charge for booking.

A new film that graphically tells the story of the application of metallic wire to cotton-type cards has been released by Proctor & Schwartz, Inc., and is available for free distribution upon request. Much of the film was taken in the card room at Gosnold Mills, New Bedford, Mass., where 38 cards are clothed with metallic wire. Other scenes show the Philadelphia shop of Proctor & Schwartz and the reclothing branch at Newton Upper Falls, Mass.

Advantages of metallic card clothing cited in the film include increased production rates, self-stripping, and virtual elimination of grinding.

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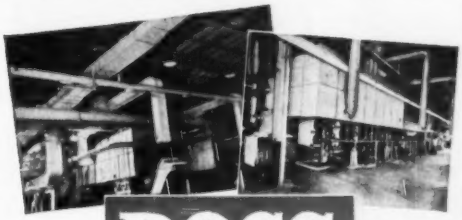

ROSS
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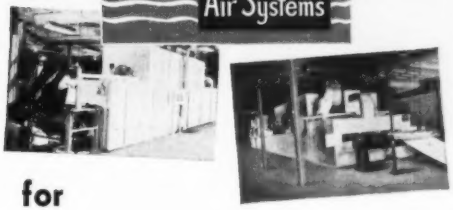

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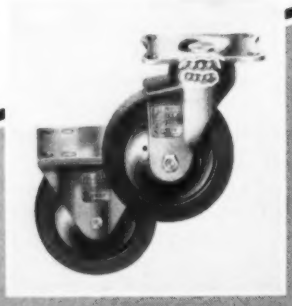

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Mill Maintenance

Increase the Life of Your Stainless-Steel Equipment

Stainless steel is valuable these days. Plan to make your stainless-steel equipment last longer.

There is sometimes a tendency to think that stainless steel is indestructible no matter how it is abused or neglected. The life of stainless steel can definitely be shortened. Stainless steel deserves the best of care since it represents a major investment.

Riggs & Lombard, Inc., Lowell, Mass., lists nine rules that you should observe to protect your investment in stainless-steel equipment:

1. Thoroughly clean new stainless-steel equipment before it is used. Scrub the equipment with a warm solution of 20 to 30% nitric acid and rinse it with hot water. This cleaning will remove foreign matter that has accumulated on the surface during shipment and installation.

2. Drain and clean all units at least once a week, if possible, regardless of the nature of the solutions being used. Wash the surfaces with hot water and dry them with an air hose. If it isn't practical to dry the surfaces with an air hose, brush the bottom free of water and allow the part to dry.

During the cleaning process, remove all lint, pieces of brush bristles, or other solid particles.

3. After the equipment is cleaned and dried, expose it to the air for 2 or 3 hr. before it is used again. If this is not possible, clean the surfaces with an alkaline or oxidizing cleaning solution.

4. If scum, lint, or other solid particles still cling to the stainless-steel surfaces after they are washed, thoroughly scour the surfaces with one of the popular brands of household cleaners.

5. Never use ordinary steel wool to clean stainless-steel equipment. Iron particles from steel wool are likely to cling to the stainless steel and start superficial rusting, which may cause corrosion of the stainless steel.

Stainless-steel wool may be used.

6. Particles of rubber that break away from a hose when steam or hot water are used must be removed.

7. Selected grades of stainless steel offer resistance to hypochlorite bleach solutions. However, this type of solu-

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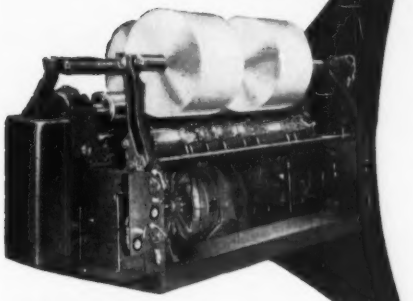
consider
the new B & S
duplex REWINDER



OUTSTANDING FEATURES:

- Simplicity of design
- Variable-speed Drive
- High speed (up to 1500 ft. p.m.)
- Compact—saves space
- Vibrationless
- Hydraulically driven differential Rewind Shafts
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- Accurate pressure control between Drum and Rewind Shafts
- All hydraulic and air Piping enclosed in Frame
- All Controls easily accessible
- Ease of operation and maintenance
- Efficient and economical

The new B & S #15 Duplex Rewinder is powered by a Louis Allis Eddy Current Type Variable-speed Drive. A variable volume pump driven by an A. C. motor supplies power to the rewind shafts, and the winder is powered by the Eddy Clutch. By placing the entire drive beneath the machine, B & S designers have saved valuable floor space.

Accurate pressure control and precision winding are achieved by pneumatic cylinders for raising and lowering the rewind arms. For full center winding rewind shafts can be locked in "out" position.

To eliminate all possible vibration, the B & S Duplex Rewinder is mounted on heavy cast-iron bedplate. Fully enclosed piping and easily accessible controls assure smoothness and efficiency in operation, as well as ease and economy in upkeep.

For further details write to The Bagley & Sewall Company, Watertown, New York.

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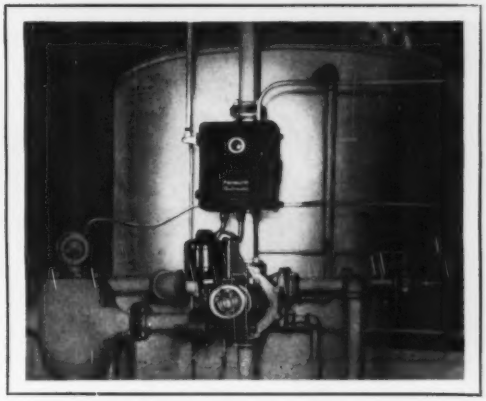

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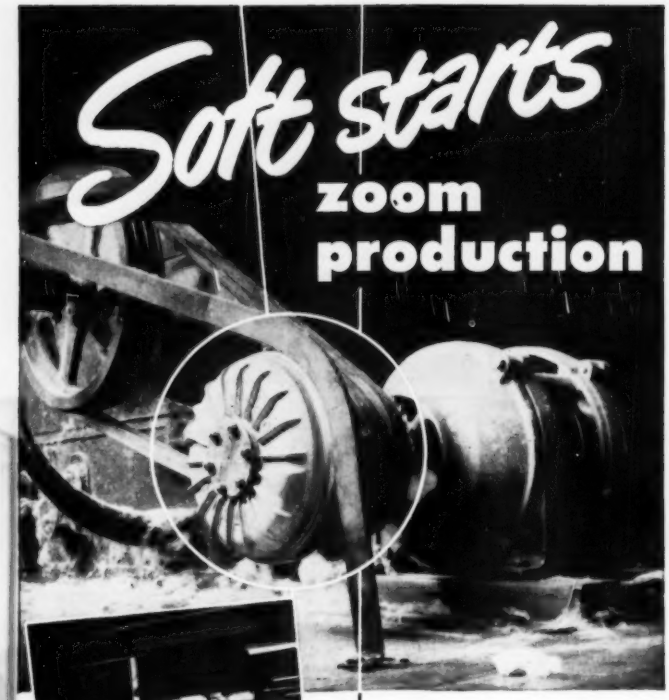

Down time is "way down" since Palmetto Cotton Mill, Palmetto, Ga., installed "soft-starting" Twin Disc HYDRO-SHEAVE drives on its Roving Frames.

"The HYDRO-SHEAVE drive provides a *very smooth, soft start* and minimizes the number of 'ends-down,' thereby saving operator downtime and upping production."

So reported a leading textile mill where sudden jerky starts on the Roving Frames had caused profit-stealing production loss through yarn breakage.

Mill after mill has found the right answer to shock-load starting troubles in the HYDRO-SHEAVE drive . . . and mill after mill has solved winding tension difficulties by installing that other famous Twin Disc Hydraulic Drive—the HYDRO-WYND. Twin results are improved quality *and* increased production.

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Twin Disc HYDRO-SHEAVES help little motors do bigger jobs . . . improve the electric power factor for all motors developing from ¾ to 50 hp. Get the whole story . . . call your Twin Disc Dealer or ask for bulletins on the HYDRO-SHEAVE® and HYDRO-WYND.®

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tion should not be kept in the equipment longer than 6 to 8 hr.

When drained of hypochlorite bleach solutions, the equipment should be cleaned as outlined in No. 2.

8. When any type of solution is drained from a unit, rinse the unit with water.

9. Many different grades of stainless-steel equipment are offered to the textile manufacturer. Choose the equipment that is best suited to your service conditions.

If it becomes necessary to change the kinds of solutions used, make certain that the new solutions will be suitable for your equipment.

Questions AND Answers

Select the Proper Yarn To Process and Twist Nylon

Technical Editor:

We are interested in producing filament-nylon sewing thread. Please advise us as to the best methods to use in processing and twisting filament-nylon yarns. (9568)

Bright-nylon yarns are more suitable for sewing thread than pigment (dull) yarns. Pigmented filament yarns have a tendency to degrade rapidly.

The twisting and doubling process of nylon yarn for sewing thread is the same as those for other synthetic filament yarns.

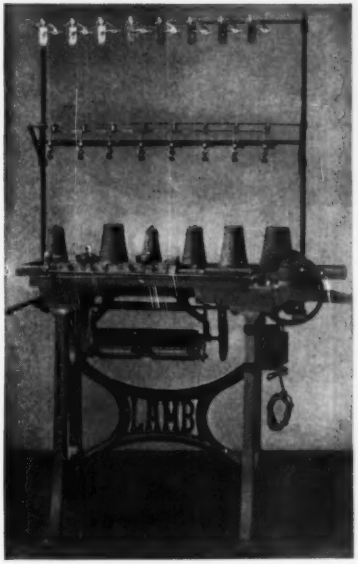
A sizing of polyvinyl alcohol is often placed on the yarn as a resistant to abrasion during the twisting operation. The sizing is soluble in water. However, if the sizing cannot be removed before the yarn is packaged, the yarn should not be sized.

When ply yarns are twisted, the direction of the twist is always opposite to the direction of the twist in the single yarns. A left-hand twist in the finished yarn is more common than a right-hand twist.

In six cords or cable thread there are three twists:

1. The spinning of the single yarn
2. The ply twist
3. The cable twist

The cable twist is formed by first doubling the single yarn in the same direction as in spinning, twist on



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ELECTRIC STOP-MOTIONS

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OUTSTANDING for ready accessibility of all operating parts (including cylindrical comb) and for remarkable cleanliness of product. Settings made quickly.

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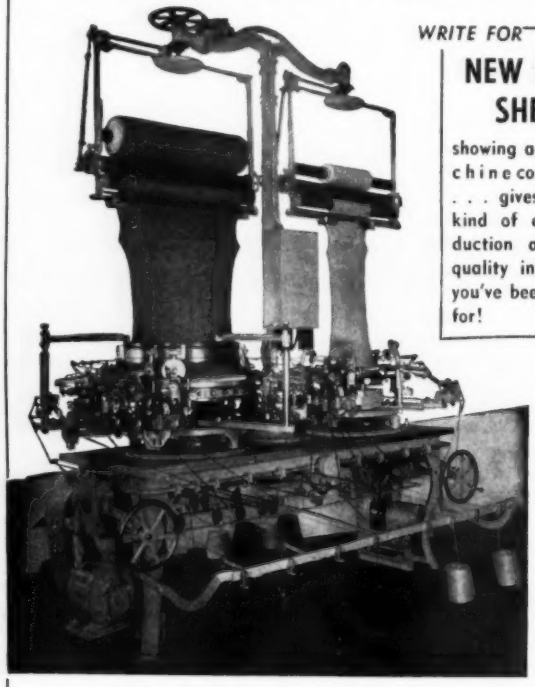
WILL TURN OUT TWICE AS MUCH FABRIC

as one operator running Multiple Feed Latch Needle machines with same number of bobbins, plus

PERFECT CLOTH all the way!



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NEW DATA SHEET

showing actual machine comparisons . . . gives you the kind of cost, production and cloth quality information you've been looking for!

fully modern!

TOMPKINS D-2 DOUBLE HEAD SPRING NEEDLE KNITTING MACHINE

YOU CAN TAKE YOUR CHOICE of lower cost per yard (with less operators) or doubled production with perfect cloth all the way . . . with a maximum versatility of fabrics!

WRITE OR PHONE FOR YOUR COPY of the NEW DATA SHEET which covers such important subjects as Fabric Flexibility; Perfect Rolls of Cloth; Needle Breakage Reduced One-Half; and Needle Savings!

SEE THE TOMPKINS D-2 IN PRODUCTION ON WHATEVER YARN OR FABRIC YOU WISH . . . SEE FOR YOURSELF HOW THE NEW SPEED AND NEW ECONOMY OF THIS MACHINE WILL ENABLE YOU TO COIN NEW PROFITS FOR YOUR MILL

TOMPKINS BROS. CO.

ESTABLISHED 1846

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twist, and then making a "hawser twist" by twisting the doubled yarns in the opposite direction.

The twists in the singling and doubling of the yarns must be properly balanced to prevent kinking. The turns per inch in spinning are based on the square root of the denier size and in doubling are based on the square of the equivalent yarn size (divide the single denier by the ply) times a twist constant. The twist constant depends on the structure of the thread and the end use.

Minimum tensions must be applied to the yarns in the twisting process or the yarns may be deformed.

Acetate dyes are the most successful dyes on nylon yarns. Other dyes that can be used with fair success are acid, direct, vat, basic, and a few sulfur dyes.

Nylon sewing thread should be preshrunk and set. Boiling water or steam under pressure can be used to preshrink the thread.

Add a Let-Off To Weave Pleats

Technical Editor:

How can pleats be woven on standard-make looms? (9572)

Pleats are difficult to weave, since two complete attachments have to be added to standard-make looms before the pleats can be woven.

1. The take-up must not operate while the pleat is being woven. If the take-up is of the ratchet type, the holding pawl can be lifted through chains and connectors from the dobby jacks. The jack that operates the "let-back" should be an idle one and near the back of the head. The pattern chain should be built to govern the let-back.

2. The pleat must be woven from a second beam, which is usually a top beam. Any seersucker-type top-beam let-off can be used to release the warp. Ropes or friction bands should be used to give the necessary tension to the top beam.

Any ratchet gear can be used to release the top beam. The top-beam warp should be placed over two rubber-covered rolls that are held in stands fastened to the top-beam stands. A third covered roll should lie on top of the two rolls. The ratchet gear is fastened to the third roll. Since the third roll is securely held against the first two rolls, the top beam is released as the ratchet moves.

The ratchet receives its movement from a chain on the dobby-chain worm shaft.

The top beam lets off continuously,

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SELLS TEXTILES
Quality Keeps Them Sold
Colors, appropriate to the product, make sales. And when those colors hold fast through years of wear and tear, customers not only stay satisfied — they come back for more.
With over 40 years of experience and the largest yarn dyeing capacity in the world, Franklin Process is superbly equipped to give you colors that will sell your product and keep it sold.
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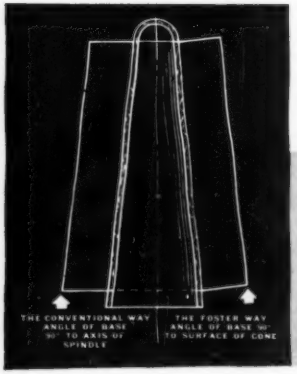
LARGEST PACKAGE DYERS IN THE WORLD

BANISH TWO ENEMIES OF GOOD RAYON KNITTING

NIP-I-TIS — unsightly tight stitches in knitted fabrics — is caused by catching of the yarn on the base of the cone as it delivers to the needle. The Foster Model 75 cone prevents it, because the angle of the base is wound at 90° to the *surface of the paper cones.* Thus each layer of yarn at the base is laid in a progressively higher horizontal plane, so that it can not drop down and "nip" the layer underneath.

SLUFFING — Creeping of the yarn towards the nose of the cone, so that it comes off in bunches — occurs most frequently when a cone is wound in the conventional manner, — with the angle of the base at 90° to the *axis of the spindle,* producing an *upward* pressure. The Foster Model 75 Cone practically eliminates sluffing because the angle of the base — 90° to the surface of the paper cone — produces a *downward* pressure.



Banish these two enemies of good rayon knitting. Install Foster Model 75 Winders or specify Foster Model 75 Cones.

FOSTER MACHINE CO., Westfield, Mass., U.S.A.

Southern Office, Johnston Bldg., Charlotte, N. C.;

Canadian Representative, Ross Whitehead & Co., Ltd.,
1475 Mountain St., Montreal, Que.

European Representative: Muschap Taylor, Ltd., Ashton-Under-Lyne, England

FOSTER MODEL 75

FOR WINDING NYLON, RAYON, SILK AND COTTON THREAD YARNS

since the ends that make the pleat weave into the body of the cloth when the pleat isn't being made.

Angora Should Be Processed On the Worsted or French System

Technical Editor:

What is the best way to process angora yarn? (9573)

Since angora fibers run from 1½ to 6 in. in length, the cotton system cannot be used. The woolen system, too, would not ordinarily be used.

However, some angora is spun on the woolen system; but the wild, slippery nature of the different-length fibers prevents a uniform stock from being delivered to the jackspools. There is also a problem of getting sufficient rub in the roping so that it will come off the spools freely in spinning.

Carding angora on the woolen system requires a lot of care and attention.

The rub aprons should vibrate very fast with a short stroke at a speed not lower than 450 to 500 turns per min.

An emulsion of 4 qt. of oil to 12 qt. of water per 100 lb. of stock will aid in processing angora.

Since the web may break down before the angora fibers reach the rub apron, 70 to 80% draft in spinning should be added.

One plant that processes angora believes that a single-cylinder breaker and a single-cylinder finisher are all that are required to make roping ready for spinning on the woolen system.

In worsted carding, the material needs little working unless it is matted. The longer the carding, the greater the percentage of loss in droppings and the greater the number of fibers that are broken. The fibers often break near the end, which will result in lost fibers of short lengths.

In processing on the worsted system, where a sufficient amount of stock is handled, Noble combs may be used. Care has to be taken to extract only a minimum amount of noils. The comb is lightly fed (moderately thick slivers with a short feed) so that the maximum amount of top can be obtained. Combs are run slower than combs on wool fibers to avoid excessive waste of the angora wool.

The best combing results can be obtained from the rectilinear comb. In this machine, most of the short fibers are retained for the top.

The natural system of drawing for angora is the porcupine system that is used with the French-type ma-

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chinery. After being run through the porcupine, the angora roving is spun into yarn on a ring spinning frame. Light travelers should be used to eliminate excessive drag on the yarn.

Yarn-Count-to-Needle Ratio in Hosiery Knitting

Technical Editor:

What is the relationship between yarn count and the number of needles in a knitting machine and the effect of this relationship on the weight of socks produced?

In other words, if you change either the yarn count or the number of needles, what happens to the sock weight? Obviously, socks get heavier or lighter, but we want a chart that shows the relationship and degree. (9558)

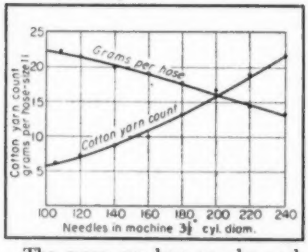
Yarn counts vary with the square of the needles per inch. This relationship may be expressed by this formula:

$$\frac{\text{Cut}^2}{K} = \text{Cotton yarn count}$$

For plain cotton hosiery or the leg portion of men's hosiery, the value for K is approximately 18. The cut of a 160-needle hosiery machine is approximately 13.5. If these values are substituted in the above formula, the cotton count indicated is 10.

Reducing the number of needles used in knitting hosiery, while keeping the yarn size and other conditions the same, will lighten the weight of the work in proportion to the number of needles removed. However, as is usually the case, a reduction in the number of needles will be accompanied by the use of a somewhat heavier yarn. If the same-size cylinder is used and the same-size hose produced, the weight will be increased, largely through added thickness.

The attached chart expresses graphically the relationship between the needles in a 3½-in. cylinder and the cotton-yarn size. There is also shown by the upper line the estimated weight of one sock in grams. Grams were chosen because this unit falls within the scale used for yarn size.



The grams per hose can be made to vary considerably by stitch differences, two-thread knitting, etc. This chart serves only as a guide.

Useful Accessories For Textile Mills

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CHEMICAL

Gas-Washing Apparatus

A new type gas-washing apparatus that offers numerous advantages over the conventional-type bottle-and-stopper washing arrangement has been put on the market by Ace Glass, Inc., 1938 North West Blvd., Vineland, N. Y. Advantages are said to be (1) Very small volumes of absorbing solution are required, which feature is a vital factor in analytical procedures; (2) the gas passes through 15 to 16 liquid exchanges (each of the indentations is equivalent to a "pass"); in other words, each indentation acts as a gas scrubber unit; (3) very small pressure drop across this scrubber; (4) the unit lends itself to rapid circulation of the scrubber solution as it passes up through the indented tubes; (5) plugging due to crystallization of salts in the gas inlet tube is completely eliminated; and (6) heat generated by chemical reaction of the gas with the absorber solution is more rapidly dissipated than is realized with the conventional scrubber. (U-1)

Laboratory Drawer-Cupboard Unit

A new 30-in.-high drawer-cupboard, latest addition to its "Unitized" furniture line that provides just as much "sitting-height" working space as a laboratory requires, has been brought out by Fisher Scientific Co., 717 Forbes St., Pittsburgh 19, Pa. Alternated with other units, such as the company open-bench units or the recently announced "Versa-Table," the drawer-cupboard offers continuous 30-in.-high working area. The assembly may be continued in length to accommodate a team of technicians or it may be short (a single open-bench unit, for example, between two drawer-cupboards) for one or two workers.

In addition, the new unit gives the laboratory worker a place to keep his instruments and accessories. Into the convenient drawer go slides, solution cells, glass filters, analytical weights, etc. Below the drawer is a large cupboard that readily accommodates microscopes, pH meters, pyrometers, microtomes, illuminators, etc. With both the drawer and the cupboard, there's plenty of room for the tools of the researcher or technician. (U-2)

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Hellwig Dyeing Corporation of Philadelphia had long been bothered with rot and decay in their dye house roof. Because of the presence of condensate and steam, the roof had been a constant source of maintenance expense.

In 1943, they incorporated "Wolmanized"® pressure-treated lumber into the roof structure of the dye house. According to Mr. Otto W. Peyer of Hellwig Dyeing Corporation, "THIS TYPE OF ROOFING IS THE ANSWER TO DYE HOUSE CONSTRUCTION. TREATMENT PREVENTS FUNGUS GROWTH".

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pregnated with babbit, copper, cadmium, or silver and used in the manufacture of bearings, bushings, or any wearing parts, is being offered by The Carbone Corp., 400 Myrtle Ave., Boonton, N. J. Oil or other lubricant is unnecessary since self-lubrication is an inherent property of the finished product. "Carbolube" will prevent pitting and fusing in electrical parts and brushes, the company says.

The material is made by a unique, vacuum-pressure process that assures uniformity of structure. It is available in sizes up to 10 in. in diameter, and in almost any shape or form. Bearings or parts can be made economically to specifications in small or large quantities. (U-3)

ELECTRICAL

Electronic Temperature Control

For accurately controlling operating temperatures ranging from minus 100° to plus 600° F., Thermo Electric Co., Inc., Banta and Raphael Sts., Fair Lawn, N. J., has introduced its newly designed "Thermo Electronic" temperature controllers with resistance-bulb sensitive elements. These instruments are built with single or duplex control action and are available in six different temperature ranges.

The standard resistance bulbs, designed for use with these controllers, cover practically all process applications. The instrument has a relay with load contacts for operating heating elements, motor starters, electric valves, and signal contacts for the two red and green lights on the instrument door. These signal lights are visible over a wide angle at distances up to 100 ft.

The calibration of the measuring circuit is accurate within ±0.25% of the scale range. This accuracy is maintained by stabilized manganin wire resistors and does not depend upon mechanical parts. Variations of the a.c. voltage or variations in resistance of the connecting cable from bulb to instrument do not impair calibration accuracy. The circuit is immune to electrical interference. Relay chatter is eliminated by lock-up circuits. (U-4)

High-Shock Circuit Breaker

A new "Hi-Shock" plug-in circuit breaker has just been introduced by Trumbull Electric Dept., General Electric Co., 41 Woodford Ave., Plainville, Conn. To simplify installation and maintenance, the company has also developed a sub-base for mounting the new circuit breaker.

Designated K-173, the new breaker is designed primarily for the protection of three-wire lighting systems. However, it can also be used for two-wire systems by connecting the circuit to the two protected poles of the breaker. And it is suitable for overload and short-circuit protection of load circuits supplying power to single-unit consuming devices, such as electronic equipment.

Rated at 125 v., a.c. or d.c., with trip ratings from 10 to 50 amps., the circuit breaker can be used on any frequency system between 60 and 400 cycles. It has an interrupting rating of 5,000 amps. In addition to being a small, compact unit, the circuit breaker's plug-in features and

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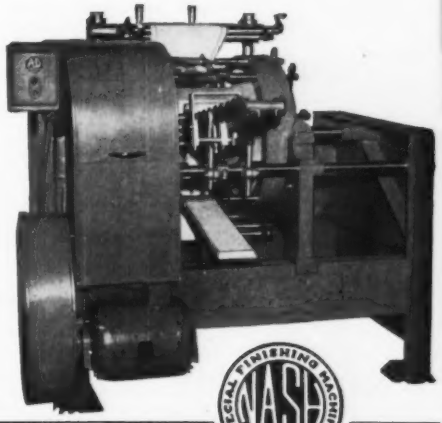

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the mounting base allow for quick removal and replacement by the operator. This setup enables the operator to remove the breakers with minimum interruption of the system, by simply substituting a spare breaker for one that has been removed. (U-5)

Interlocking Receptacle

A new interlocking electric receptacle that permits use of cord sets for locations that are hazardous is now available from Tigerman Engineering Co., 4332 North Western Ave., Chicago, Ill. The new receptacle incorporates a sealed mercury switch that de-energizes each socket before a plug can be inserted or removed. This eliminates all danger of sparking.

The mercury switch works on a cam lever that locks the cord-set caps in position after they are inserted. In the locked position the mercury switch completes the circuit. A simple flip upward of the cam lever tilts the switch, breaks the circuit and allows the cord caps to be pulled out safely. The new device incorporates standard single or duplex receptacles to fit any conventional cord set.

Ratings of either 115 v. 20 amp. or 250 v. 10 amp. are available for single 3-wire, duplex 3-wire, single 4-wire, or dual 4-wire service. (U-6)

Lead-Lag Ballast

A new lead-lag slimline ballast combining series economy and size with lead-lag performance and dependability is now available from Westinghouse Electric Corp., P. O. Box No. 868, Pittsburgh 30, Pa. The new ballast is available in 38, 58, and 75-w. two-lamp sizes.

A 25% reduction in wattage losses now puts lead-lag in the series-ballast class for operating economy. New circuiting and improved production methods have reduced the size of the ballast to 3¼ in. by 2⅜ in. by 13¾ in., with a corresponding reduction in weight.

The initial cost of the new lead-lag ballast approaches that of the series ballast. Stroboscopic correction as well as long lamp life is obtained through the lead-lag circuit. Additionally, an accurate check on lamp burn-outs saves both maintenance time and money. (U-7)

Small Toggle Switches

A series of extremely small toggle switches designed primarily for use in assemblies where precise switching components must be located in unusually small space is announced by Micro Div., Minneapolis-Honeywell Regulator Co., Freeport, Ill. The switches were designed for aircraft use but have industrial applications also.

One assembly (identified as 6AT2), is a single-pole, double-throw assembly that employs one ISMI switch riveted into a stainless-steel toggle bracket. Another (6AT3) includes two basic ISMI switches and gives double-pole double-throw service.

Toggle bushings are threaded and fitted with hex nuts for panel mounting. Electrical ratings of the ISMI basic switch in these assemblies are given tentatively as follows: motor or resistive load, 2 amp.-

For more information, write direct or use Reader Service post card.

20 v. d-c; inductive load at sea level, 2 amp.-30 v. d.c; inductive load at 50,000 feet, 1½ amp.-30 v. d.c; or 5 amp.-125 or 250 v. a.c. (U-8)

Battery-Charge Indicator

To help plants obtain greater efficiency and maximum economy with industrial truck batteries, Gould-National Batteries, Inc., 467 Calhoun St., Trenton, N. J., has announced a new and improved charge indicator.

The instrument can be easily mounted on the truck so that the operator can see the dial at all times for instantaneous readings of the state of battery charge while his truck is operating. An easy-to-read, three-colored dial indicates whether the battery is "full," "½," "empty," or in "danger." Changing batteries as soon as they register "empty" prevents repeated overdischarge and shortened battery life.

The indicator, a Wheatstone-bridge-type instrument, is readily adjustable for 3-, 6-, 12-, 15-, 18-, and 24-cell batteries; a series of resistors and taps permits the desired adjustment. It is completely enclosed in a metal case finished in black crackle enamel. The meter is balanced to read accurately regardless of its mounting or the truck's position. A toggle switch disconnects the indicator from the battery during charging. (U-9)

Conveyor Belt for Inclines

A new conveyor belt for carrying packages or articles up or down inclines of 25 to 30° has been made available by Baldwin Belting, Inc., 76 Murray St., New York 7, N. Y.

The belt, called "Thread-Top," has a non-skid cover that grips like the tread on a tire. It is made with a lightweight closely woven fabric of high tensile strength. The fabric is full width. It is folded and has no splices. Its flexibility enables it to run perfectly over pulleys as small as 2 in. in diameter.

The belt is made with natural rubber throughout, calendered and press cured the same as the heaviest conveyor belt. It is easily cleaned, and the rich brown color is pleasing to the eye. There is no black to mark the products carried. The multiple plies hold metal fasteners exceptionally well, the manufacturer says.

The belt is waterproof and has a minimum of shrinkage. The fabric is protected by the natural rubber that completely covers all the fibers in the fabric. The belt can be vulcanized endless with a multiple-step lap that will last as long as the belt itself. (U-10)

Grading Cotton

(*Continued from page 101*)

plaque through the glass viewing front. A constant weight of 5 lb. was placed in the cylinder so that the cotton would be packed down against the glass with as nearly a constant pressure as possible. The search unit was placed with its aperture upward, and the viewer glass and cylinder were placed on top. Cotton was put into

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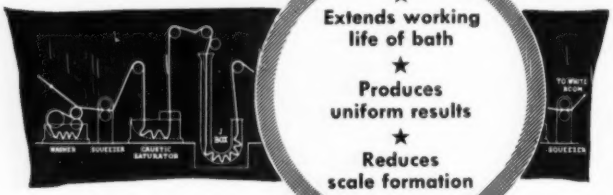

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the cylinder and the 5-lb. weight applied.

Each measurement consisted of the following steps:

1. With the green filter, the reflectometer was calibrated against the standard opaque plaque through the glass front.

2. The plaque was removed, cotton was put into the cylinder, the weight applied, and two or three readings recorded from different areas. The cotton was turned over and enough readings recorded to make a total of five.

3. The average of the five readings was taken.

4. Steps 1, 2, and 3 were followed to obtain values with the amber and blue filters.

How Results Were Evaluated

In checking the results of grading the samples with the reflectometer against the grades given by the two classers, a tolerance of less than a grade was considered reasonable. If the classer graded a sample Low Middling, the grade from the reflectometer could be anywhere from Strict Low Middling minus to Strict Good Ordinary plus. The same tolerance applied to Tinges.

With five readings and the small aperture for viewing, the difficulties in detecting Spots and Light Spots are apparent. No standard exists for these classifications, and it was impossible to include them in the grading with the reflectometer. Therefore, the Spot and Light Spot designations were considered as a minus grade; for example, Low Middling Light Spot was considered identical with Low Middling minus, etc.

Of the 146 samples graded, there were 19 that did not comply with the above tolerances. Eleven of these were cases where the classers gave grades lower than those from the reflectometer. This variation was attributed to the classers discounting the samples as a result of preparation.

The results show that the reflectometer is limited and cannot evaluate preparation in terms of color. They also show that it is accurate enough for color determination of cotton when used with proper precautions.

In the analysis of the processing samples through roving, the results of the color determinations followed the classers' grades. The tests showing low whiteness values were on cottons of the lower grades, Tinges, and Spots. The tests that showed the highest whiteness values were on cottons of the higher grades.

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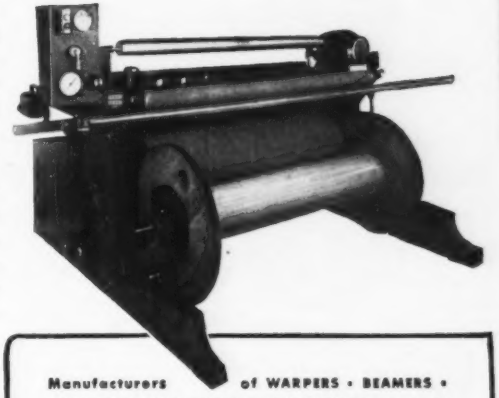

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Permanent Resin Finishes—all fibers
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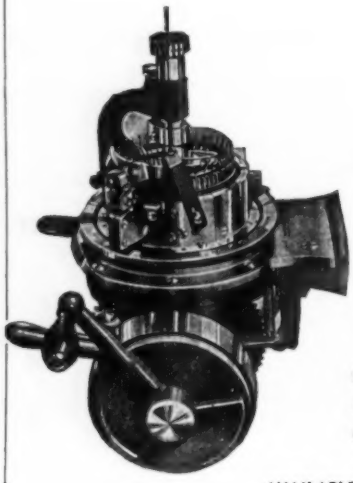

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CANADA

stable, and it does not tend to vary greatly from the original samples through the processing stages. The processing does remove the small percentage of foreign matter present, which would change the over-all color of most samples of cotton. However, the results show no significant change in the whiteness of the cotton itself.

The cottons used in these tests contained large amounts of Light spots, Spots, and Tinges. The machine-stripped cottons contain a trash that is not greatly different in color from the cotton. Weathering tends to produce a trash with a lesser amount of pigment.

Any instability in the results is believed to be caused by these anomalies, inherent errors in the instrument and the procedure, and by methods of sampling.

The degree of whiteness of each test after the open boils shows a significant increase, indicating that a certain amount of the color of the machine-harvested cotton can be extracted by alkali boil.

The bleached samples show an overall high degree of whiteness with a maximum deviation of 4.6% between extremes.

Here's the Theory

Experts recognize three classes of color properties: physical, psychological, and psychophysical.

1. Physical properties can be measured as a function of wave length by a spectrophotometer. The curves recorded by the spectrophotometer give an objective description of color.

2. Psychological properties are associated with the impressions made upon an observer by the various colors. If a particular surface impresses an observer as being colored differently from another, it is because one surface reflects some wave lengths of light more efficiently than the other.

The human eye is most efficient at wave lengths very close to 5,550 Angstrom Units, and its efficiency decreases rapidly for the wave lengths both shorter and longer than this narrow range. Therefore, the color impression of an observer is not subject to exact physical measurement.

3. Psychophysical properties are capable of being measured; yet they are related closely to the impression of an observer. The psychophysical device used to measure a color stimulus is referred to as a tristimulus colorimeter, which measures the color stimulus in terms of three selected stimuli called primaries.

The "ICI Standard Observer for Colorimetry" system is based on the use of three stimuli and on the reactions of a number of observers regarding these stimuli. The system essentially comprises a set of tables that define the stimuli used and contain the average of the reactions of the observers. The object of the system is to express a color by a set of three values, and when

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these values are added together the color is identically matched.

Here Are the Calculations

The amber (A), green (G), and blue (B) values obtained with tristimulus filters in a photoelectric colorimeter may be converted to useful information about color, as was done in these cotton tests.

An expression for estimating the whiteness of a sample has been established by Judd. Visual estimates of this property are widely used in commerce, where it is of great importance in determining if an object meets certain whiteness specifications. Hunter made minor changes in Judd's expression to give a rapid conversion of photoelectric tristimulus data to whiteness. This method affords good agreement with perceived whiteness.

The whiteness of a sample is proportional to the degree it approaches an ideal white. If magnesium oxide is assumed to approximate the ideal white and is given the value of 1.00, an ideal black, such as a cavity, will have the value of zero. Equation (2) can be used to convert photoelectric tristimulus data to whiteness:

$$W = 1 - \left\{ (30\sqrt{\alpha 2 + \beta 2})^2 + \left(\frac{1.00 - G}{2}\right)^2 \right\}^{\frac{1}{2}} \quad (1)$$

α in the above equation is determined by

$$\alpha = \frac{A - G}{A + 2G + B} \quad (2)$$

which is an empirical equation used by Hunter. β is a similar expression obtained from

$$\beta = \frac{0.4\,(G - B)}{A + 2G + B} \quad (3)$$

White and near-white surfaces are frequently rated for their degree of yellowness. The equation (2)

$$\text{Yellowness} = \frac{A - G}{G} \quad (4)$$

provides an approximate psychophysical measure of yellowness, giving a scale ranging from zero for magnesium oxide to positive values for yellow surfaces and negative values for blue surfaces.

Rayon on Cotton System

(Continued from page 92)

justable stripper plate set $\frac{1}{8}$ in. to the back of the beater pins is essential to prevent long-staple rayon from imbedding in the Kirschner-beater pins and causing stringiness.

Carding

For rayon, the standard flat-top card is the most versatile. The roller card has found use in yarn numbers of 20s and coarser, but the roller card has not been found as suitable for processing $2\frac{1}{2}$- and 3-in. staple lengths as has the flat card. Tests indicate that the 2-in.

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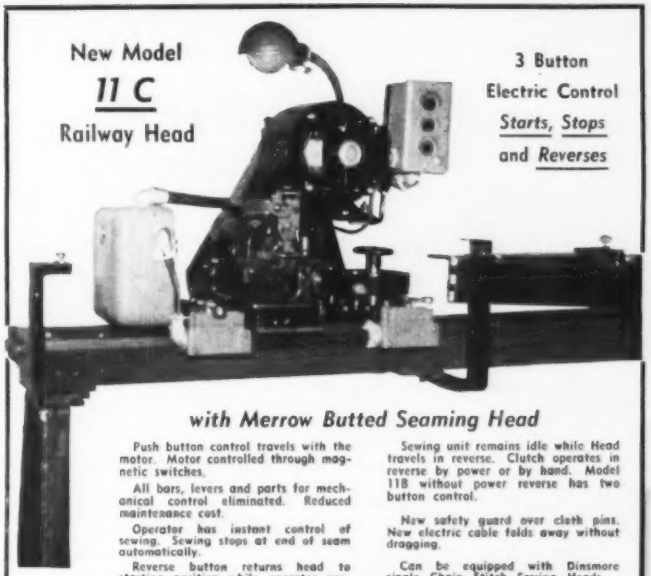

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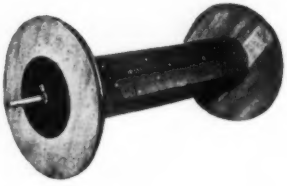

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length in 3-den. blends is the optimum staple for processing on roller-type cards. On flat cards, 2½- and 3-in. staples can be processed with reasonably good results. The tendency has been to use excessive lickerin speeds and close feed-plate settings. Some so-called long-nose feed plates are now being used, but reasonable lickerin speeds and a feed plate with the standard 1¼-in. face give as good results as the special setups.

Extremely close settings and excessive lickerin speeds should be avoided, or excessive staple breakage and nepping will result. Too-close feed-plate settings tend toward undesirable loading of the lickerin. No. 1 lickerin wire is highly recommended since it reduces any tendency of the stock to load.

When you consider what card wire to use, first determine the quality of yarn desired. The finer the wire, the more carding obtained—but yarn strength is usually lower with improved evenness and neppiness. Best results are obtained with the following wire counts for blends of predominantly the denier shown:

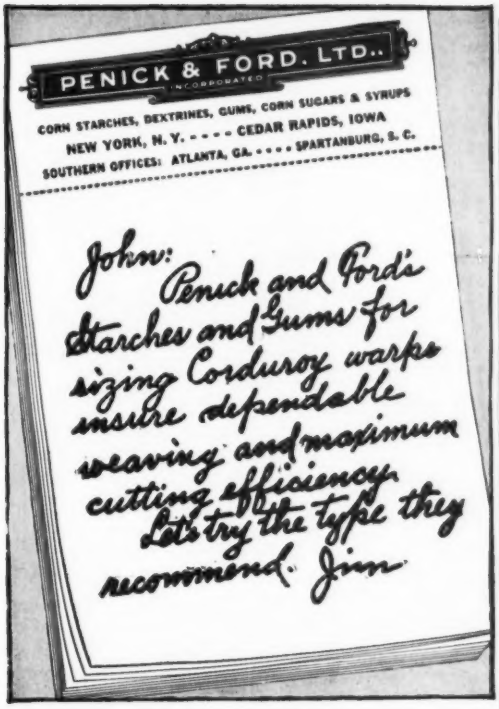
Denier	Wire Count Cylinder	Doffer and Flats
1.0	120	130
1.5	110	120
3.0	100	110
5.5	90	100

For flat cards, mote knives with the 20 to 22° angle are preferred over a solid screen. If a solid screen is used, a 1¼- to 1½-in. air space should be allowed beneath the feed plate to prevent interference with the draft control. For less carding, flat settings wider than 0.010 in. have been used, but 0.010 in. has been found best for staple lengths up to 3 in.

For roller cards, the rpm. of workers and strippers should be 18.5 and 700 for Whitin cards and 8 and 295 for Saco-Lowell cards. The plates between workers on an S-L card should be set as follows: front, 0.034 in.; back, ⅛ in. Workers should not be set closer than 0.010 in. from the cylinder, and clothing on both workers and strippers should be checked frequently.

Drawing

Two-process drawing gives best results in yarn uniformity and appearance. Six ends are being replaced by 8-end creelings on drawing, but the latter gives some problems with creel space behind the machines, particularly where 14-in. cans are used. Random creeling of the breaker drawing usually helps avoid excessive yarn-number variation, but gang creeling of the finisher drawing is usually prac-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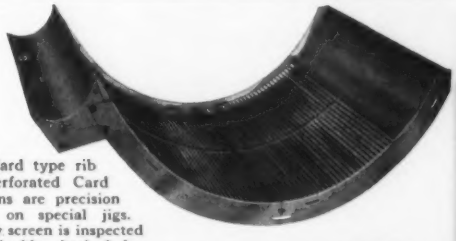

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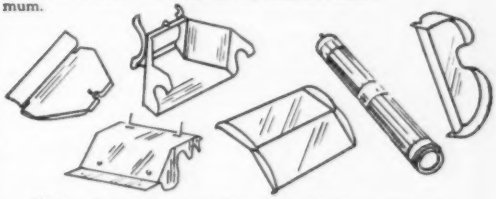

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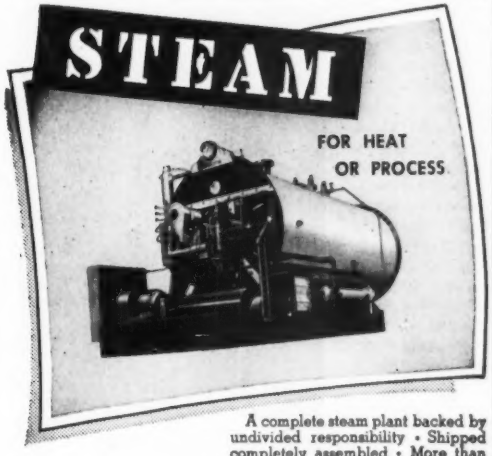

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ticed to reduce piecings. Cushion-top-roll drawing elements with well maintained synthetic covers give easy adjustment of drawing tension and generally good results for most work. When extremely difficult fibers with a tendency toward lapping are run, leather-top rolls are usually better. Close roll settings will usually give better results in sliver uniformity and lapping.

Roving

Two- and three-process roving has given way to single-process, long-draft slubbers for most blends up to 35/1. The finisher-drawing sliver is gang-creeled on the slubbers to reduce piecings, and creel-outs are usually re-run through the drawing. The control of twist in the roving is extremely important when meeting long-draft spinning requirements. If the twist is too high, there is a tendency towards twist setting in the roving upon storage, with an increase in yarn slubbiness. If the twist is too low, however, the roving stretches in the creel. Storage of roving for periods longer than two or three weeks is not recommended. Roving should be stored under controlled conditions similar to those in the spinning room or under conditions of relative humidity slightly greater than those maintained in spinning. Tension on roving is likewise important and should be carefully controlled.

Spinning

Long-draft spinning is essential for obtaining highest yarn quality when single-process roving is used. Double creeling of the roving at spinning is recommended for best yarn uniformity. The conventional type of long-draft spinning employs drafts from 15 to 21 on most blends. Newer-type Shaw and Cassablancas drafting elements are capable of drafting from 28 to 40. Experience, however, indicates that the conservative draft range of 28 to 35 gives best results for most blends. When higher spinning drafts are used, it is extremely important to control the relative humidity between 48 and 52%, because wide variations in humidity will give poor results.

Correction

A mathematical formula that appeared in Questions and Answers in April, 1952, in the article "Figure Fabric Count From Yarn Count" was incorrect because the printer left off the 2.

The equation was:
"Diameter of 20/ spun rayon."
It should have been:
"Diameter of 20/2 spun rayon."

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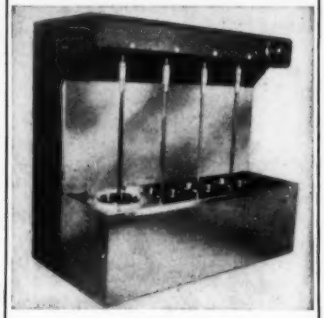

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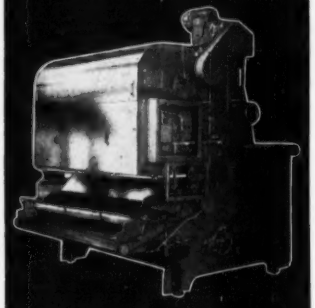

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Textile Community

(Continued from page 138)

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Tell Your Story

Recreation programs, vacation plans, hospitalization, and other benefit programs for your employees are wonderful to have; but do you tell your townsmen about them? It helps merchants to plan their sales promotion events if they know what your mill intends to do about vacations with pay, Christmas bonus clubs, etc. And when times are not good, be frank. Let the people hear from you why the mill is on short time and what you plan to do about it. You'd be surprised at the feeling of confidence and respect generated by your honesty and frankness in the problem area.

Good community relations simply means being a constructive, courteous, active, and progressive neighbor. When your community has confidence in and respect for your company and when your employees are proud to work there—proud of their jobs with you—then your community relations are sound. But no matter how good you think they are, they can always be bettered, even today, in a cost-conscious industry. Why not re-evaluate your responsibilities toward your town and its citizens and their problems? Why not start your own good-neighbor program now?

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Round Table

(Continued from page 135)

CARD ROOM WASTES

Dear Editor:

The comment in the July *Round Table* of Master Spinner from India on card room wastes was very interesting. The individual percentages vary from the amounts removed in many American mills using Middling and Strict Low Middling cotton. The opening-room waste of 10% seems exceptionally high. No statement is given in the letter from India as to the grade of cotton used. Low grades of cotton equivalent to our Good Ordinary could explain the excessive opening-room waste. With 10% waste removed in the opening, there should be little of the heavier trash remaining to be removed by the lickerin.

Enclosed [see table below] is an average of several waste tests made in a typical New England mill making 20s to 30s yarn from 1- to 1 ⅛-in. Middling and Strict Low Middling cotton. There is little difference in the total card waste made in the New England mill tests and those from India. However, the lickerin and flat strips do show a large difference. The amounts appear to be reversed for each type of waste.

The removal of the heavier trash at the lickerin should prove to be a good stunt. This method would probably save wear and tear on the flat and cylinder wire and leave the flats clear to remove some of the smaller impurities. It would be interesting to many carders if the Master Spinner from India would give details as to card speeds and settings. An explanation for the removal of 10% opening waste would also be valuable.

Boston, Mass. AN INTERESTED READER

Comparison of Card Room Wastes

Type of Waste	New England Mill	Reported from India
Total opening and picker wastes ...	3.34%	10.000%*
Lickerin and fly waste	1.32	2.890
Flat strips	2.68	1.562
Sweepings, droppings, etc.	0.17	0.148
Clearer	0.06	0.026
Cylinder and doffer strips	0.66	0.442
Invisible loss	0.27	0.442
Total card waste...	5.16	5.510

* Approximate.

FIGURING GRAY WEIGHT

Dear Editor:

It would be interesting and informative to have the opinions of other mill men on the methods used to obtain their gray weights off the loom.

If the grayweight quoted represents the **actual** weight of the fabric **plus** the sizing compounds, aren't we fooling somebody, if not ourselves?

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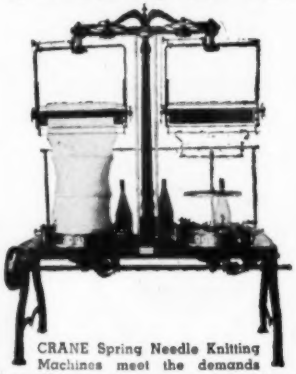

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Dear Editor: SEPTEMBER, 1952

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Outstanding TRADE LITERATURE *Free for the Asking*

NO REPEATS . . . Listed here for September are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on Reader-Service card, as described on the preceding page.

TEXTILE MACHINERY

A new uptwister that gives higher yarn quality and better packages at faster speeds and lower costs is described in literature made available by Universal Winding Co. The new machine is available as a tapered-headless-package model or as a bobbin-take-up machine. Package weights of from 1¼ to 33 oz. are possible. **(F-1)**

Pin-drafter case histories and actual installations are given in a bulletin issued by The Warner & Swasey Co. Cost savings, production increases, and waste reduction are emphasized. **(F-2)**

Data on filling feeders has been issued by The A&W Machine Co. Detailed installation and operating instructions are given for Models B, C, F-B, and F-C. **(F-3)**

Three twisters are described in a folder published by Collins Bros. Machine Co. The plain twister is available with single or double lines of bottom rolls and as a wet model. The novelty twister offers unlimited variations of commercial effects. The trap twister has an individual trap arrangement that is said to eliminate dropped piles. **(F-4)**

Ten models of dyeing and finishing machines — a representative selection from the company's complete line—are described in a folder prepared by Van Vlaanderen Machine Co. The company makes some 50 kinds of such machines. **(F-5)**

Jacquard weavers will be interested in a bulletin that describes a card-cutting and card-copying machine. Thackston & Redding, Inc., is offering the bulletin. **(F-6)**

"The greatest advance in piece-dye kettle design in 50 years" is the claim made for the new stainless-steel piece-dye kettle described in a folder issued by Riggs & Lombard. The machine is said to be able to handle practically every type of woolen and worsted fabric. Among the other features is a steam saving of 20 to 30%, because of the totally enclosed, insulated top. **(F-7)**

Outerwear manufacturers should write for a bulletin from H. Brinton & Co. that describes their 24-feed, 30-in.-dia. machine that makes pullover interlock bodies. The machine has a needle-selecting dial on each of the 24 feeds and knits 9 to 14 needles per in. **(F-8)**

The double-butt, double-jack system is the heart of a new tandem-carriage, fully automatic, link-and-link knitting machine described in a leaflet issued by Queens Machine Co. The carriage-cam arrangement has been simplified, and the bridges and latch openers employed in conventional machines have been eliminated. **(F-9)**

A straight-knife cloth-cutting machine that is unconditionally guaranteed for one year is described in a folder made available by Beaver Cloth Cutting Machines, Inc. The machine has an automatic sharpener that is built in to assure having a sharp blade at all times. **(F-10)**

AUXILIARY EQUIPMENT

A differential indicator that is used to continuously measure the difference between two speeds is described in literature offered through Thackston and Redding, Inc. Positive control over variations in tension is offered with the unit —often installed on various finishing machines. **(F-11)**

Playing with electronics? If you've got anything on your breadboards, you'll be interested in a brochure issued by Servomechanisms, Inc. The publication describes a complete line of precision components for rapid and economical breadboards and semipermanent assembly of control systems and instrumentation devices. **(F-12)**

A 96-p. bulletin that completely covers the latest instruments and equipment in the laboratory, analytical, and measurement fields has been published by Minneapolis-Honeywell Regulator Co., Brown Instruments Div. Titled "Instruments Accelerate Research," the bulletin includes many items not covered in previous editions. **(F-13)**

Users of V-drives will find a new catalog prepared by Maurey Mfg. Corp. a useful and convenient source of buying information on fractional-horsepower V-drives, drive parts, and accessories. Of particular interest are the pages devoted to interchangeable bushings and new flexible couplings that have a shock-absorbing rubber bond especially developed by Goodyear engineers. **(F-14)**

An individual card-drive assembly is described in a leaflet issued by Earnhardt Electric Service, Inc. Said to be the most economical and efficient drive on the market, the assembly requires less floor space per card. **(F-15)**

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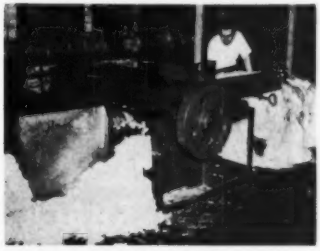
Cuts Rayon Waste and Nylon Sliver On Two

TAYLOR-STILES CUTTERS

In the plant of a big producer of cut fibers, two Taylor-Stiles machines are the only cutting equipment. Shipments are made to customers in sliver or cut staple form.



No. 411 thread waste cutter, with taper box feed and no aprons. The 3-knife head, runs at 150 r.p.m. shown here cutting raw stock for garnetting.

No. 112 staple cutter is shown cutting nylon tow to 2" staple. Seven slivers are drawn from coils and cut simultaneously. Note the shearing set of the fly knives to the bed knife that produces efficient fiber cutting.

Taylor-Stiles No. 411 thread waste cutter gives bulk raw stock a random cut prior to garnetting, which is then made into coiled sliver.

Taylor-Stiles No. 112 staple cutter draws 7 slivers of nylon at a time from coils and cuts them simultaneously to accurate 2" staple lengths. Accumulated cuttings go directly to the baling press.

The No. 112 staple cutter is small enough to be taken to any place in the plant as desired.

TAYLOR-STILES and Company
CUTTING MACHINES & KNIVES

15 Bridge Street, Riegelsville, New Jersey

Reader Service (Continued)

Posture chairs, topping tables, knitters' benches, and other specially designed and built sheet-metal products are described in a folder prepared by Gordon W. Morton. **(F-16)**

Accurate feeding is the keynote of a bulletin prepared by Omega Machine Co. The bulletin, which describes their loss-in-weight, Gravimetric feeders, discusses operation, feeding range, vibratory-feeding mechanism, synchronous-motor feed-rate control, and the special hopper. Among other things, the feeders could be used for starch or chemicals. **(F-17)**

Industrial-hose assemblies are described in a bulletin issued by Carlyle Rubber Co., Inc. If you use hose, you ought to send for it. **(F-18)**

Got a weighing problem? A complete line of scales for every industrial need is covered in a catalog just issued by The Howe Scale Co. The catalog describes 1,000 scales that weigh anything from 1/64 oz. to 400 tons. **(F-19)**

Liquid meters that measure more than 100 different industrial liquids in processing, batch-mixing, and cost-control operations are described in a bulletin released by Neptune Meter Co. Several pages of meter-sector charts give complete engineering and specification data so that you can pick the meter best suited for your needs. **(F-20)**

Moisture testing with its semi-automatic moisture tester is described in literature made available by Brabender Corp. The machine is available for a two-week free-trial period. Forced draft is what makes this instrument unique. **(F-21)**

Talk about the factory of the future, you ought to read "Centralized Instrumentation . . . Unlimited," a bulletin issued by Minneapolis-Honeywell Regulator Co., Brown Instruments Div. Conventional and graphic panel boards—and the measuring and control instruments that are used—are shown. **(F-22)**

Dripproof and splashproof squirrel-cage induction motors are described in a new bulletin released by Allis-Chalmers Mfg. Co. Motors described include ratings in 40° C.-rise, continuous-rated, open, dripproof; and 50° C.-rise, splashproof construction—from 15 hp. at 450 rpm. to 800 hp. at 3,600 rpm. **(F-23)**

Seventy illustrations of how their electric-power drives reduce production costs are given in a bulletin prepared by Sterling Electric Motors, Inc. A companion publication describes the drives themselves, which are engineered to your requirements. One feature of the drive is a fingertip feed control with a large, easy-to-read indicator. **(F-24)**

Wherever heat can cause damage, you should have automatic protection. Systems that provide it are described in a bulletin published by Illinois Testing Laboratories, Inc. The control unit described automatically monitors up to 20 individual temperature points each minute and gives instant and accurate readings on temperature variations within any phase of heat processing. **(F-25)**

SUPPLIES AND CHEMICALS

Aluminum wheels and casters for industrial use are catalogued in a brochure issued by Aerol Co., Inc. The products are known for their durability and low maintenance costs. **(F-26)**

Is vibration a problem with you? Mounting pads that reduce destructive vibration are described in a bulletin prepared by Western Felt Works. The pads that are described come with a special adhesive already applied to both the top and bottom surfaces. The adhesive is protected with a plastic coating that can be readily removed at the time of use. **(F-27)**

A concrete-fortifying chemical is described in a folder issued by Flexrock Co. The chemical, added to concrete, is

Test moisture content *in* 3 *seconds* with Moisture Register!

You get *accurate,* almost instant, moisture content readings in **wool, cotton, rayon, nylon—practically any type of textile—** when you use Moisture Register Model PD-1 or Model K-2.

Either model gives you "on-the-spot" readings with guaranteed accuracy. They're simple to operate, require no technical knowledge or skill, weigh only 6 pounds, easily portable.

Model PD-1 tests textiles in loose or compressed forms with 3" penetration. Model K-2 tests cones, beams, rolls and similar forms.

ONE YEAR GUARANTEE!

Use one of these instruments **FREE** for 10 days. No obligation! Prove for yourself that Moisture Register will help you maintain higher standards, iron out production headaches, add to your reputation as a manufacturer of quality products. Fill out coupon, mail today!

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Dept. TW, Alhambra, Calif.

☐ Please send me, *without obligation!* for 10-day free trial, Model.....for use on.....

Enclosed find purchase order to cover trial period.

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NEWEST
Anti-Static Treatment for Synthetics
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LEKTROSTAT
NYLON TRICOT IMPROVED
The anti-static agent Lektrostat B, when used (2 to 3%) in the last rinse after dyeing, gives nylon tricot an improved hand with better running and cutting characteristics as it possesses the qualities of a substantive softener. Garments made from treated fabric exhibit better shelf life since they are less prone to pick up dirt and lint through static electricity.
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DEXTER CHEMICAL CORP.
TEXTILE CHEMICAL DIVISION
P.O. BOX 1, BLVD. STA. NEW YORK 59

for safe, efficient
STATIC
elimination
the Simco
MIDGET
is best of all—and least expensive!
the SIMCO company
9th and Master Streets
Philadelphia 22, Penna.

Reader Service (Continued)

said to produce longer-wearing floors that are resistant to acid, water, oil, and grease. **(F-28)**

New information on leather products is available in data sheets made available by J. E. Rhoads & Sons. Information is given on leather belting and on leather packings for hydraulic and pneumatic equipment. **(F-29)**

The oxidation of vat dyes on cotton and synthetics with hydrogen peroxide is covered in a bulletin released by Buffalo Electro-Chemical Co., Inc. Typical procedures for the oxidation of vat dyes with hydrogen peroxide are covered along with dye oxidation on continuous ranges, on the jig, and in package machines. Yarn and raw-stock dyeing are treated separately. **(F-30)**

Spinning saddles that are said to be saving mills lots of money are described in literature published by Whitehead Engineering Co. Bearings on the saddles are ⅝ in. wide and are said to give longer service because of the 50% increase in bearing area and the reduced unit load on bearings. And the literature tells how you can try a sample side of these saddles and their improved nebs at no charge. **(F-31)**

Morflex 100, a new type of octylephthalate plasticizer is described in a specification sheet put out by Morton-Withers Chemical Co. Of particular interest to manufacturers of coatings is the property of light-transmission retention. This product gave a value of 94% compared with 22% for dioctyl phthalate. **(F-32)**

Specifications of a number of chemicals of interest to the textile industry are given in a catalog prepared by Tennessee Products & Chemical Corp. **(F-33)**

ENGINEERING AND MAINTENANCE

Power-operated pumps for applying a wide range of materials and compounds are described in a catalog published by Lincoln Engineering Co. The pumps and their accessories are used for the automatic application of such proucts as insulants, protective coatings, waterproofing agents, adhesives, disinfectants, caulkings, sealing compounds, lubricants, and the like. **(F-34)**

A homogenized product that waterproofs, preserves, and protects new and old roofs is described in a folder issued by The Hallemite Mfg. Co. Called Halcoloid, the product is available in three formulations to meet all roof conditions. **(F-35)**

A dozen different special coatings for plant-maintenance use are described in a bulletin issued by United Laboratories, Inc. Described are products that solve such problems as skidproofing, rust prevention, painting over damp areas, weather proofing, waterproofing, painting over hot surfaces, acid protection, chemical fumes, etc. **(F-36)**

Steam traps that are equipped with bellows made of bronze, monel, or stainless steel—and bodies made of bronze, semisteel, and cast steel—are described in a bulletin issued by W. H. Nicholson & Co. Besides capacity tables and dimensions, the bulletin also includes piping diagrams, typical applications, and selection helps. **(F-37)**

The cutting of handling costs and the increasing of warehouse space are just two of the topics covered in a recent publication of Towmotor Corp. **(F-38)**

Stop profit-eating corrosion! That's the warning given in a catalog just issued by Prufcoat Laboratories, Inc. The back page of the catalog is a handy guide to all of the company's products so that you can determine the specific sealer, primer, and finish material required for any painting problem. **(F-39)**

Circuit breakers. A complete study of type AB circuit breakers is given in a new booklet made available by Westinghouse Electric Corp. For the first time, photographs show the actual arc-quenching action of all AB breakers. **(F-40)**

Roller-gravity conveyors are described

WORLD'S FINEST IN-STOCK
INDUSTRIAL ELECTRONICS
PARTS CATALOG
NEW 200-PAGE
1953 EDITION
JUST PUBLISHED!
SENT FREE
Write on your company letterhead. Radio Shack's catalog is COMPLETE from AMPEX to ZEPHYR. Over 15,000 listings of components and equipment, plus details, pictures, lowest net prices. Separate indexing of products and manufacturers. Full JAN data! The preferred buying and reference guide for P.A.'s, engineers, designers, schools, civil defense, government, service agencies. For your FREE copy, write TODAY to Department W
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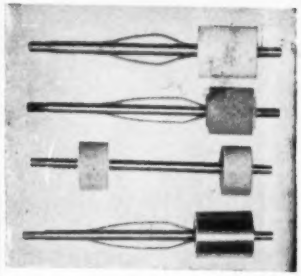
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WINDER
SPINDLES
Made with either two or four springs or with round or hexagon spindle nut.
Send us a sample bobbin, giving the style spindle you want and we will make up a sample to fit, quoting prices on whatever quantity you need.
WAYNE Mfg. Co.
HONESDALE, PA.

IT'S WHAT IS IN THE DRUM THAT MAKES THE DIFFERENCE

FOR DYEING DACRON

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RODACRON

THE CARRIER

which is

- POSITIVE
- ECONOMICAL
- EASY TO USE
- GIVES LEVEL DYEING

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Display Advertising keeps your name **before** the public and builds prestige.

Direct Mail supplements your Display **Advertising**. It pin-points your message **right** to the executive you want to reach —the person who buys or influences the **purchases**.

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Reader Service (Continued)

in a new catalog issued by Lamson Corp. The booklet tells how to determine which roller will be most suited to any particular application. Size and specification data on gravity conveyors is included along with detailed construction characteristics. **(F-41)**

An excellent treatment of the approved equipment for industrial fire protection is the big catalog just published by Associated Factory Mutual Fire Insurance Co. Every mill manager should have a copy of this unbiased survey. **(F-42)**

Rotary burners designed for commercial and industrial use with any type of oil and for operation in combination with any type of commercially available gas are described in a catalog issued by Superior Combustion Industries, Inc. Nine sizes provide a capacity range from 5 to 167 gal. of oil per hr.—equivalent to a bhp. range of 17 to 569. **(F-43)**

Thermocouples, radiation detectors, and resistance bulbs are covered in a data book and catalog prepared by Wheelco Instruments Div., Barber-Colman Co. The booklet also covers other accessories for indicating, controlling, and recording instruments. **(F-44)**

Lubrication information for electric power-steam turbine installations is given in a recent issue of *Lubrication*, a publication of The Texas Co. The entire issue is filled with information on this subject—information that every mill engineer should be interested in. **(F-45)**

GENERAL

Charleston, S. C., has issued a series of booklets that describe how it has reshuffled its rivers for industry. The city will soon have a practically unlimited supply of fresh water—up to 10-billion gal. a day—right at tidewater. **(F-46)**

The National Safety Council has put out an educational publication on the proper operation and guarding of garnetting machines. Thirteen types of machine guards are recommended for the control of six major groups of hazards. **(F-47)**

New developments in automatic sprinkler protection are described in a research-project report published by Factory Mutual Engineering Division. **(F-48)**

A production-control system that uses punched-card tabulating equipment, scheduling boards, and special card units is described in a publication from Remington Rand Inc. The booklet tells how the production-control system was tailor-made to an individual installation. **(F-49)**

Total research expenditures in the U. S. for both industry and government are estimated for 1952 at almost $3-billion, exclusive of atomic energy. Of this amount, the federal government will spend well over half. A booklet that discusses the importance of government research and its relation to industry has been made available by National Association of Manufacturers. **(F-50)**

Is there a

SCRAP MINE

in your plant?

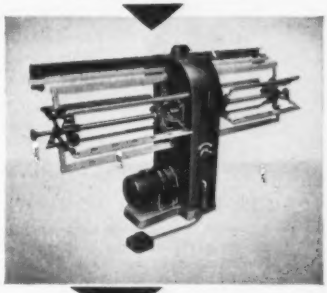
★

Dig it out for defense!

INCREASE

operator productivity

25% to 100%



Fidelity

SKEIN REELER

offers these improvements

- ✓ Automatic skein-weight control
- ✓ Variable speed control
- ✓ Free-end collapsible reels
- ✓ Adjustable reel size
- ✓ Adjustable yarn traverse
- ✓ Automatic brakemotor
- ✓ Pedal brake release
- ✓ Push button start-stop switch
- ✓ Electric Stop Motions
- ✓ Enclosed drive, safe, compact
- ✓ Universal yarn creels

ADVANCED DESIGN BOOSTS ECONOMIES

New design makes this high-speed Fidelity Skein Reeler so easy to run that one operator can handle several machines. Automatic features increase labor productivity 25% to 100%. Space-saving double end (as shown) and single end models available for cotton, nylon, rayon, silk, wool and worsted yarns, tapes, and laboratory uses.

Job-proven in top mills, Fidelity Skein Reelers outperform all others. Get the brochure on this first radical development in reeling machinery in over 40 years, or simplified production charts to analyze your own reeling operation.

Manufacturers of intricate precision machinery since 1911.

FIDELITY MACHINE COMPANY INC.

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ROVING CANS – STRONG AND SMOOTH!

For materials handling equipment specify C-D-F Vulcanized Fibre receptacles. Nothing beats fibre for economy and long life.

Material is tough and mar resistant. Trays, boxes, baskets, cans, barrels. C-D-F builds them all from light, sturdy fibre. You move materials, not useless weight.

LOOM PARTS—ALL NON-METALLIC!

Vulcanized Fibre bushings, washers, binder pins. Fibre cloth roll bearing blocks. Special parts that C-D-F accurately machines. Order by original part number and maker, or send us the old part.

C-D-F's new Southern warehouse is located at Spartanburg, S.C. Celoron gear stock always immediately available. Phone: Spartanburg 3-6397.

WRITE NOW! Write Textile Section, C-D-F, for catalogs showing Vulcanized Fibre receptacles, Dilecto laminated plastic materials, Celoron silent gear stock . . . all made by C-D-F to save you money. *Free 64-page booklet on machining plastics will be included!*

Continental-Diamond Fibre Company

NEWARK, 55, DELAWARE

CHROME

Try our *HARD* chrome finish for protection.

Extra *THICK* for parts that wear. Standard finish for parts exposed to high humidity. Special finish to resist corrosion in wet finishing operations.

Replating of worn thread guides, whorls, top and bottom rolls, yarn rods, tension discs, sleeves, posts, waxholders, loom rolls.

Send a trial order.

Machine builders specify *HARD* chrome plating for new parts. Any thickness.

Precision Chrome and Finishing Corp.

370 Park Avenue **Worcester 2, Mass.**

Ship Anywhere in the USA

Textile Equipment News

(*Continued from page 132*)

York, N. Y. Called "Copyfix," the development consists of two pieces of table equipment that make finished, positive copies, regardless of type or color, from originals up to 14 in. wide in any length.

The machine operates from any electrical outlet. No darkroom is needed. The sheet to be copied is placed face to face with a sheet of negative Copyfix paper on the printing unit, and is then exposed. Removed from the printer, the two are separated; and the exposed negative paper is placed on a sheet of positive Copyfix paper in the second unit. In about 10 sec. the two sheets emerge from the rear slot of the machine.

These two sheets are separated, and you have a perfect positive copy for immediate use.

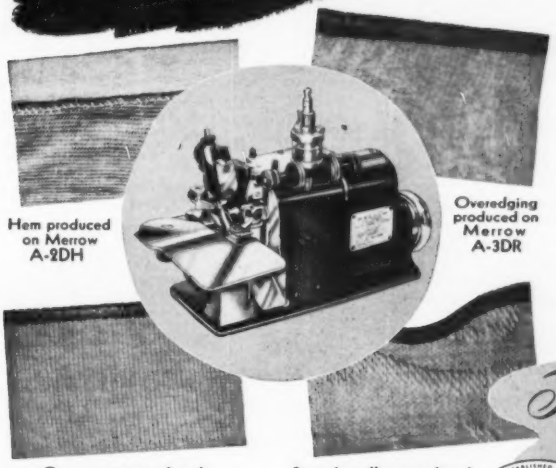
Self-Contained Illumination Is Integrated In Magnifier

ADEQUATE LIGHT SUPPLY on the object being examined under the magnifier is a problem of the past. This unit has self-contained illumination that floods the object with direct light from within.

An electrically lighted magnifier for general industrial use, including textile-mill shops and laboratories, has been put on the market by Bausch & Lomb Optical Co., 635 St. Paul St., Rochester 5, N. Y.

The instrument is designed to speed detailed examination of all kinds of materials and products through self-contained direct illumination on the subject. It comes equipped with either of two types of illuminator handles: one battery-powered and the other arranged for connection with

"MERROWING" . . . Overseaming, Overedging and Hemming



Hem produced on Merrow A-2DH

Overedging produced on Merrow A-3DR

Overseaming produced on Merrow A-3DW

Smooth scallops produced on Merrow A-3U

Merrow Overstitching Machines reflect over 60 years' experience in the manufacture of industrial sewing machines. The term "Merrowing" . . . used throughout the industry to describe overstitching . . . is recognition of this experience and "know-how"

Illustrated are a few of the many applications possible with Merrow Overstitching Machines.

Let us demonstrate the work of these machines on swatches of your own fabrics: write The Merrow Machine Co., 2803 Laurel St., Hartford 6, Conn.

TRADE MARK REG.

The MERROW MACHINE COMPANY

DISTRIBUTORS IN PRINCIPAL TEXTILE CENTERS

2803 LAUREL STREET • HARTFORD, CONN.

THE LOYAL T. IVES COMPANY EST. 1874

SPRING BEARD KNITTING NEEDLES

For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines; Slides, Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

Sheet Metal Specialties to Order

NEW BRUNSWICK NEW JERSEY

CALDWELL TANKS—

First Choice of the Textile Industry!

Caldwell offers the industry a complete tank service, including solid Stainless and Stainless-lined wood tanks and tubs, of any shape or size.

If you're thinking of installing or replacing a tank, let our 60 years' experience in building high-grade tanks serve you. *Send for our catalog, today!*

W. E. CALDWELL CO., Inc.
2060 Brook St., Louisville, Ky.

Caldwell TANKS AND TOWERS

Acme Products

for seamless hosiery knitting

Speak for Themselves

Up-to-Date Machines
Needles

Economy Makers

ACME KNITTING MACHINE & NEEDLE CO.

FRANKLIN, N. H.

Stehedco and Southern

World Famous "Quality" SOUTHERN SHUTTLES possess Eye, Tip and Grip Features which give them longer, more productive shuttle life.

a 110-v. power source. Either handle fits a reflector-type shade into which the magnifier snaps.

The instrument's lens system magnifies five times and is highly corrected to eliminate almost all spherical and chromatic aberration and distortion. It has a wide, flat field.

Accessories furnished without extra cost are a non-illuminating handle and a metal tripod.

Drum-Moving Unit Simplifies Chemical Handling

THE "DRUMOBILE," which safely lifts full drums, with or without cover removed, and transports them from place to place, has been put on the market by Kist Machine Co., Inc., 1001 East Ferry St., Buffalo 11, N. Y. When an employee places the device around the drum or barrel and shoves the handle downward, the full drum or barrel is easily raised off the floor. The unit will handle up to 850 lb.

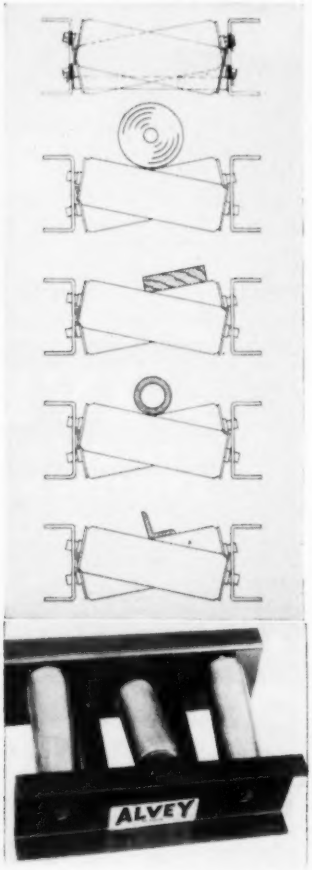
New All-Steel Bearings Carry Extra-Heavy Loads

THESE EXTRA-STRONG BEARINGS are available in shaft sizes from 2 15/16 in. on up. They are reported to weigh far less than would be expected from their load capacity.

A new line of all-steel pillow blocks that provides high load-carrying capacity in a compact and rugged package has just been developed by Dodge Mfg. Corp., Mishawaka, Ind., in cooperation with Timken Roller Bearing Co. High radial and thrust capacities and the stamina to take heavy loads are provided within minimum dimensions and with far less than usual weight.

Bearings are self-aligning, with spherical outer race. Double piston-ring seals keep the lubricant in and dirt and dust out of the bearings, which are sealed both on and off the shaft. Shaft sizes run from 2 15/16 in. on up.

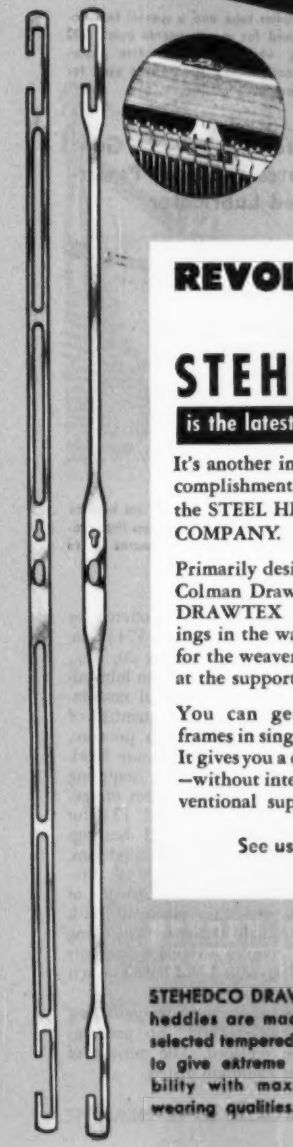
Automatic Centering Provided by New Conveyor



NEW CONVEYING UNIT that automatically centers material going along it has been introduced by Alvey Conveyor Mfg. Co., 9315 Olive St., St. Louis 24, Mo. Each roller is slightly tilted in alternating directions to form a central trough. Any shape of item rolls forward easily without the necessity of side guards. The "Vee-Conveyors" are made in various widths and capacities.

Stehedco and Southern

Adding or removing heddles is simple — you merely twist the open section.



REVOLUTIONARY IN DESIGN . . .

STEHEDCO *DRAWTEX*

is the latest scientific development in modern drawing-in harness equipment

It's another in the long line of patented accomplishments pioneered and developed by the STEEL HEDDLE MANUFACTURING COMPANY.

Primarily designed for use with the Barber-Colman Drawing-In Machine, STEHEDCO DRAWTEX automatically prevents openings in the warp. It eliminates the necessity for the weaver or fixer adjusting the heddles at the supporting hooks.

You can get STEHEDCO DRAWTEX frames in single and double bar construction. It gives you a continuous slide for the heddles —without interruption of any kind. The conventional supporting hook for the heddle rod is completely eliminated and special rod hook allows the heddle to slide the full length of the frame.

With STEHEDCO DRAWTEX all heddles are free to float and find their proper position as they spread over the width of the cloth being woven.

Heddle rods are much wider, giving much more strength to the frame. They eliminate sagging in harness. Frame ends are completely flush to give maximum frame length use in any loom.

Consult our staff of Field Engineers for full information on this revolutionary development in modern drawing-in harness equipment.

See us in Booth No. 137—Southern Textile Exposition, Greenville, S. C.

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STEHEDCO DRAWTEX heddles are made of selected tempered steel to give extreme flexibility with maximum wearing qualities.

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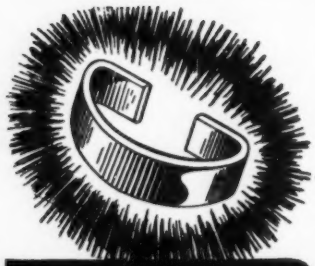
SOUTHERN SHUTTLES Paris Plant . . . Greenville, S. C.

A Division of STEEL HEDDLE MFG. CO.

STEEL HEDDLE COMPANY OF CANADA, LIMITED

310 St. Hubert Street Granby, Quebec, Canada



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You're on the right track when you call in your Dary representative. He keeps up with all developments in the field of spinning and twisting — and his advice to you is backed by our fifty years of experience.

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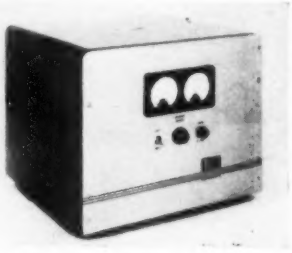
JOHN E. HUMPHRIES, BOX 843, GREENVILLE, S. C.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES M. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD RHYMER, BOX 2761, GREENVILLE, S. C.

Sensitivity Attachments Speed Process-Operation Analyses

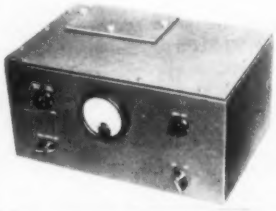
The three instruments pictured here were developed by Beckman Instruments, Inc., 820 Mission St., South Pasadena, Calif., to simplify, and make more precise, the operation of the company's spectrophotometric and color-control procedures.



BATTERY POWER REGULATOR assures accurate current-consumption determinations and a minimum of battery maintenance when measurements are made with the company's Model-DU spectrophotometer.

The regulator permits the operator to exercise precise control of the charging unit so that the battery can be supplied with the exact amount of current needed for operation of the instrument.

Thus the battery is maintained at its most efficient charge at all times to assure maximum accuracy in making spectrophotometric measurements. Needle drift resulting from power fluctuations is virtually eliminated, and the spectrophotometer can be operated indefinitely without battery drain.



NEW FLOW COLORIMETER simplifies the continuous analysis and control of flowing or static streams in liquid or gaseous processes, and is accurate to 0.5%.

The instrument passes light through an air path to a reference phototube and continuously compares the intensity of the light beam with another beam passing through the flowing sample to a measuring phototube. Since light to the phototubes is supplied by a single tungsten lamp, both phototubes are affected equally by variations in light intensity.

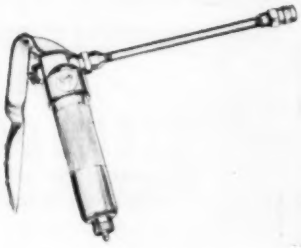
The difference in response of the two phototubes regulates the position of the needle on a millimeter scale. Readings can be quickly converted into concentration of the liquid or gas in the sample.

PHOTOMULTIPLIER ATTACHMENT for the company line of spectrophotometers makes possible an over-all simplification gain from 100 to 1,000 times that of standard ultraviolet-sensitive tubes.

Sensitivity of the instrument is greatly increased in all spectrophotometric measurements, but particularly in flame, fluorescence, and turbidimetric determinations. Easy interchangeability and push-button control are provided.

The multiplier tube and a special load resistor are used for measurements below 600 millimicrons, while the red-sensitive phototube and another load resistor are used for analyses above 600 millimicrons.

High-Pressure Booster Gun Eliminates Need for Power-Operated Lubricator



HARD-TO-REACH FITTINGS are not hard to reach with this new lubricating gun that provides a complete range of pressures up to 10,000 psi.

A new lubricating gun offered by Lincoln Engineering Co., 5742 Natural Bridge Ave., St. Louis 20, Mo., can serve in three ways: (1) in lubricating of bearings on industrial machinery that require a small quantity of lubricant at extremely high pressure, (2) as an auxiliary high-pressure lubricator to service bearings requiring injection of limited quantities of special-purpose lubricants, and (3) for cracking frozen or clogged bearings without use of a power-operated gun.

The gun provides a range of pressures up to 10,000 psi. Its weight of only 2 lb. and easy one-hand push action eliminate fatigue. The long hydraulic coupler extension permits reaching deep-seated and hard-to-reach fittings.

The gun is cleaned by removing only one outlet check; no packings have to be replaced. The outside of the unit is cadmium-plated.

Count on HEYDEN for FORMIC ACID

More and more chemists and production men are specifying Heyden Formic Acid (90% and 85%) to assure best results in a wide variety of applications.

Make the most of this high quality formic acid in your particular process. In the manufacture of better textiles, be sure you are taking advantage of the economies and improvements it effects in its many uses.

Heyden Formic Acid has proved its value in the production of important pharmaceuticals—in the tanning of leather—in the treatment of paper—in rubber manufacture—in metal plating and numerous other industrial applications.

Shipped in 125 lb. carboys and 525 lb. stainless steel drums.

SODIUM FORMATE

Another Heyden product of high purity that is important in the chrome tanning of leather, making water-resistant wall paper, and dyeing and finishing of textiles. Investigate this economical raw material for your operations. Shipped in 300 lb. water-proofed fiber drums.

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Serving Industry through Finer Chemicals

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Benzaldehyde • Benzoates • Benzyl Chloride
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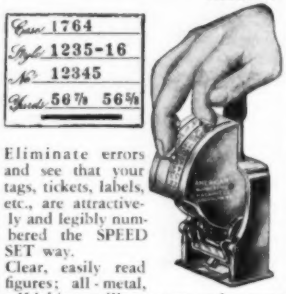
Salicylates • Salicylic Acid • Streptomycin

THE AMERICAN
SPEED SET
GEAR CONSTRUCTION
NUMBERING MACHINES
MODEL 42



Eliminate errors and see that your tags, tickets, labels, etc., are attractively and legibly numbered the SPEED SET way.
Clear, easily read figures; all-metal, self-inking; will cut costs and prevent mistakes in preparing price tickets and labels. Numbers changed with touch of finger.
Send for descriptive folder illustrating many printing and numbering machines specially designed for the textile industry.

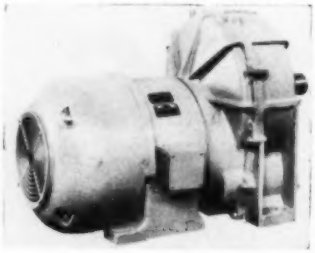
Employees' Record and Time Card Marking Machine

SPEED SET Machines can be obtained for numbering uses of all kinds, in addition to numbering tickets, labels and tags. The above machine illustrates just one variety. Machines can be equipped with many features adapted to customers' needs, such as bases, gauges, counters, etc., and mounted on special platforms.

• **WRITE** TODAY FOR FOLDERS describing these new machines used in Cotton, Woolen, Hosiery, Knit Goods, and Dyeing and Finishing plants.

AMERICAN
NUMBERING MACHINE CO.
Atlantic and Shepherd Aves.
BROOKLYN 8, NEW YORK

Larger Enclosed Geared Motors Provide Maximum Dust Protection



FAN-COOLED ENCLOSED MOTOR designed for low-speed drives is in this case a 15 hp., 100 rpm., Type KFWB-2 unit with Class-II gears.

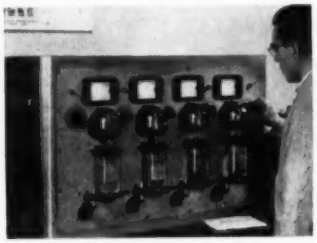
Larger totally enclosed fan-cooled geared motors that are designed for low-speed drives where maximum protection is required from non-explosive liquids, dust, or vapors have been added to the line of "Slo-Speed" electric power drives manufactured by Sterling Electric Motors, Inc., 5401 Anaheim-Telegraph Rd., Los Angeles, Calif.

The new units are double reduction and are available with Class I, II, and III gears in frame size 364/365, and AGMA speed 155 rpm. and slower, in ratings from 5 to 25 hp.

In the drive, bearings are mounted in the outer walls of the gear case, and gears are mounted between these widely spaced bearings. This arrangement permits the use of offset shafts and provides permanent bearing and gear alignment in a uniform distribution of load.

Corrosion-resisting gray-iron housing, labyrinth seals, large terminal boxes, and rugged helical gears make the motors well-suited for low-speed drives.

Rapid Laboratory Electro-Analyses Possible With New Instrument



FOUR SEPARATE ANALYSES, either independent or duplicate, can be run simultaneously with a new electro-analyzer that is available from Fisher Scientific Co., 717 Forbes St., Pittsburgh 19, Pa. Each spindle or station is equipped with its own independent components for complete flexibility of schedule. The power provided is 10 v. at 10 amp. A.c. ripple, a serious shortcoming in earlier instruments, is held to less than 2%. A wide variety of accessories is available.

Roper Let-Off Adjustment

(Continued from page 115)

the extreme position, the pallet lever should almost touch the pallet-lever stop.

Reduce Chances of Wavy Cloth

When the ratchet let-off wheel is examined, look closely for flaws in the ratchet teeth, the cam, and the bore. A worn or low tooth will often cause the pallet to slip and will cause barré cloth. The internal-gear pinion should fit snugly on the cam on the let-off wheel. The pallet is self-sharpening, but it should be replaced when ¼ in. has worn off. The pallet spring should be strong enough to keep the pallet in close contact with the teeth of the ratchet let-off wheel.

A frequent source of let-off trouble is the brake or friction band. The older-type brakes had a leather lining that worked well until the leather became saturated with oil or water; then the brake would alternately slip and bind and cause uneven cloth. The later-model bands have strips of cork or holes into which cork inserts, similar to cork bottle stoppers, are placed. This friction material is better than leather but should also be protected from water and lubricants.

The cam to adjust the tension of the let-off friction band should be just tight enough to keep the ratchet-let-off wheel from turning freely. The friction is not to apply tension to the yarn but is a braking device to prevent the ratchet wheel from overrunning when the wheel is actuated by the let-off pallet.

Make the Parts Fit

The pinion crosshead, the internal gear, and the internal-gear pinion

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TEXTILE PROCESSING CHEMICALS?
✓Soda Ash
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FIRST!
Call SOLVAY first for quality textile chemicals . . . for fast, dependable delivery service . . . and for assistance from SOLVAY's exclusive textile Technical Service on the proper and economical use of these products in textile processing.
In addition, SOLVAY has thirteen sales offices and a national organization of distributors to serve you; also strategically-located plants and over 200 stock points to assure prompt delivery. So when you need chemicals for textile processing, see SOLVAY first.
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Soda Ash • Caustic Soda • Caustic Potash • Calcium Chloride • Chlorine
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Just a pinch of Antifoam A kills foam in textile sizes without hampering the wetting action of the size itself. It's effective in gelatin, starch or casein, in concentrations as low as 0.002 ppm.

That kind of performance is why you'll find that this remarkably effective silicone is the most economical defoamer you've ever used. Bland and non-inflammable, its high order of chemical and thermal stability prevents it from contaminating or reacting with most foaming media.

Easily dispersed in a wide variety of solvents, Antifoam A is effective in most aqueous foaming systems. Where solvents cannot be used, specify Antifoam A Emulsion. Containing 30% Antifoam A by weight, this stable, easily dispersed suspension may be introduced directly without the use of carrying agents.

If high production costs are pinching your profits, pinch them back with Antifoam A. Evaluation samples available upon request. Simply fill in and mail the coupon today.

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Please send sample of ( ) Antifoam A
( ) Antifoam A Emulsion

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Midland • Michigan

should fit snugly but should move freely. The internal gear should be reamed out and bushed if the bore is worn. The ratchet arm should be pressed closely against the internal gear to prevent any lateral motion of the parts on the pinion shaft, and the arm should be fastened with the setscrew. The ratchet should fit firmly in a tooth of the ratchet gear on the outside of the internal gear and should be held in place by the coil spring.

The alignment of the outside bearing is often the most tedious task in reassembling the let-off motion.

With an empty yarn beam in the yarn-beam bearings, tighten the yarn-beam bearing caps. Set the friction band in its inoperative position, and slowly turn the ratchet wheel until the internal gear has made a complete revolution.

If the ratchet has remained meshed with the same ratchet tooth for the full revolution, indications are that all the parts of the let-off are working freely. If the ratchet slips, the bearing must be loosened and the trouble located and eliminated to prevent uneven cloth.

The ratchet-release pin is placed in the hub of the ratchet arm, and the let-off crank is setscrewed to the let-off pinion shaft. This release pin will sometimes cause trouble when the let-off motion is on the outside end of a loom where a box or a truck can be pushed against it. A slight pressure on the crank handle will disengage the ratchet and cause the pinion shaft to turn and release the yarn.

On such exposed let-off motions, it is better to eliminate the release pin altogether. The latest-model Roper let-off does not have this crank and exposed parts.

Six Trouble-Shooting Hints for Roper Let-offs

1. If the ratchet wheel revolves, but the pallet lever is inoperative or makes half-strokes—
The let-off friction-clamp cam is not tight enough, the friction lining is saturated with oil, or the friction lining is worn out.

2. If the pallet lever makes uneven strokes—
The vibrator rods are binding, the connecting rod is binding, the connecting rod is not correctly adjusted, a beam-bearing cap is loose, or the beam bearings or journals are worn.

3. If the ratchet on the let-off pinion-shaft arm slips from one tooth to another on the internal gear—
The outside bearing on the let-off is out of alignment, the let-off pinion shaft is worn, the bore of the internal gear is worn, a ratchet spring is weak or broken, the ratchet and/or ratchet teeth are worn, or the yarn beam or let-off pinion is binding.

4. If the pallet slips on the let-off wheel—
The pallet is dull or worn, the pallet spring is weak, or the teeth on the ratchet let-off wheel are worn.

5. If warp yarn is too slack—
There is not enough tension on the vibrator-rod spring, the ratchet arm is slipping on the let-off pinion shaft, the let-off pinion teeth are not meshing with the teeth of the warp-yarn beam, the yarn is slipping on the beam, the beam journal is loose, or the controlling-lever link is loose or out of adjustment.

6. If warp yarn is too tight—
There is too much tension on the vibrator-rod spring, the pallet or let-off wheel is worn, the controlling-lever link is not correctly adjusted, the connecting rod is too long, the connecting-rod end and/or driving-rod arm is binding, the let-off friction clamp is too tight, the beam lever is sticking, the let-off pinion is too small, the let-off pinion is binding against the rim of the warp-yarn beam, the beam bearings are too tight, the beam journals are crooked, the vibrator rod is binding, or the whip-roll shaft is binding.

[EDITOR'S NOTE: *Bronze bushings are used by many mills throughout the let-off motion. Once the machine parts are reamed out, further replacement of worn bushings can be made with little trouble.*

The author has given trouble-shooting methods to eliminate failures of the let-off motion. If his program of rebuilding the let-off is carried out, no failures will occur.]

Looking for you at BOOTH 105

first floor on the right

in Textile Hall GREENVILLE

We'll show you why Ragan Rings run longer and smoother, with fewer delays for replacement. And we hope to surprise you with a remarkable new Ragan development.

Ragan Rings

RAGAN RING COMPANY, the only manufacturers of Textile Rings in the South, 866 Murphy Avenue, P. O. Box 174, Station A, Atlanta, Ga.

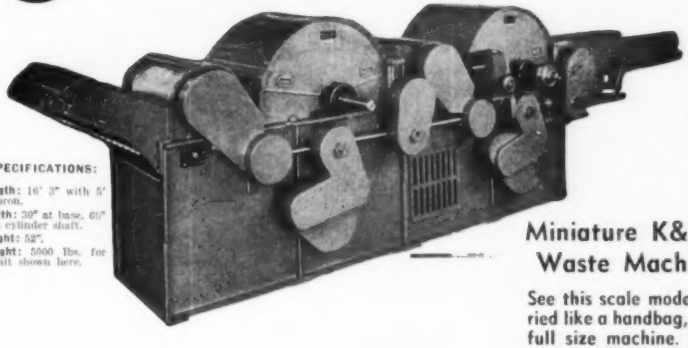
Representatives: John Foard, P. O. Box 574, Newton, N. C. • Arthur Harris, H. & Askew, 443 Stonewall St., S.W., Atlanta, Georgia
Henry Horger, Dean Thomas, 44 Norwood Place, Greenville, S. C.

For better "HARD WASTE" Processing see us Oct. 6-11 at Southern Textile Exposition

BOOTH 239

K&D

TANDEM APPLICATION WASTE MACHINE



Made especially for processing "Hard Waste" in cotton, rayon, or wool, this TANDEM APPLICATION combines two or more units of the K&D Single Cylinder Waste Machine into one housing. We will gladly explain the advantages of this TANDEM APPLICATION at the Southern Textile Exposition.

SPECIFICATIONS:
Length: 16' 3" with 5' apron.
Width: 39" at base, 60" at cylinder shaft.
Height: 52".
Weight: 5000 lbs. for unit shown here.

Miniature K&D Single Cylinder Waste Machine at the Show!

See this scale model operate! It can be carried like a handbag, yet works exactly like the full size machine. A working model of the World's most efficient Waste Machine.

Kirkman & Dixon MACHINERY COMPANY
Greenwood, South Carolina

K & D SINGLE CYLINDER WASTE MACHINES • F-5 HOPPER FEEDERS, ANY WIDTH • SARGENT COMBS

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As an employer, Group insurance may be one of your problems.

That's where Liberty Life can help. A Southern institution with over 46 years of service, we shall be happy to survey your needs and recommend a suitable plan of Group insurance for your type of business.

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Home Office

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News OF THE MONTH

Textile Mills Are Borrowing. Over $95,000,000 in loans from life insurance companies and other long-term investing firms were made to 18 American textile mills last year, according to the 1952 *Yearbook of Private Placement Financing*, published by E. V. Hale & Co., Chicago, Ill.

Largest loans granted were to J. P. Stevens & Co. ($30,000,000) and Burlington Mills Corp. ($30,000,000). The Stevens group issue 2¾% interest-bearing 25-yr. notes and Burlington 3% 20-yr. notes.

Other borrowing mills included: Dan River ($9,000,000), Reeves Bros. ($5,000,000), Robbins ($4,500,000), Botany Mills ($3,500,000), Duplan Corp. ($3,000,000), Albany Felt ($3,000,000), Bachmann Uxbridge ($2,000,000), American Felt Co. ($1,500,000), Jantzen Knitting Mills ($1,500,000), St. Mary's Woolen Mfg. Co. ($500,000), Diamond Hosiery Corp. ($500,000), Riverside Mills ($500,000), Troy Blanket Mills ($304,000), Bridgeport Fabrics ($300,000), Cumberland Hosiery Corp. ($170,000), and Bankhead Homesteads Hosiery Co. ($85,000).

Topmakers Protest. The necessity of a strong, healthy American combing and topmaking industry "in event of war" was cited by the Topmakers Group, National Association of Wool Manufacturers, as the reason why combers should obtain full support from the country in their efforts to have countervailing duties imposed on subsidized wool tops shipped here from Uruguay and Argentina.

The importance of an adequate supply of tops for worsted-type military fabrics was well recognized during World War II, according to two members of the topmakers group who served as high officials of the War Production Board. They said the priorities for tops then were second only to the priorities for the Manhattan Project that developed the atom bomb.

The two were Kenneth W. Marriner, Marriner & Co., Inc., and William Bullard of Francis Willey & Co., both of Boston.

WERNER VON BERGEN, director of research and control laboratories at Forstmann Woolen Co., Passaic, N. J., is the 1952 winner of the Olney Medal, the award committee of the AATCC has announced. Formal presentation of the medal will be made at the AATCC annual meeting in Boston, Mass., in November.

Born and educated in Switzerland, Dr. Von Bergen worked as a chemist and dyestuff technician in Europe until he joined Forstmann Woolen Co. in 1926. Since then he has taught textiles and authored and coauthored many basic publications in the field of wool-fiber technology, including *American Wool Handbook* and *Textile Fiber Atlas*.

Topmakers do not employ large numbers of workers because they have some tops made for them by mill combers, but topmakers still claim that the subsidized South American tops are displacing American workers and combers as well as injuring American wool growers.

Cut Wages, Keep Escalator Clause. Textile-mill wage rollbacks to the March, 1951, level, averaging 8½¢ an hour, were ordered recently in the New Bedford-Fall River area of Massachusetts by Prof. Walter Gellhorn, arbitrator between the mills and the TWUA, CIO. But at the same time the arbitrator ruled that union members could keep their 4¢-an-hr. cost-of-living increase that is part of their present contract through March 19, 1953.

The ruling is expected to be a pattern that will be followed by mills employing 100,000 workers in the New England and Mid-Atlantic States, differing from an earlier Bates Mfg. Co. arbitration decision in Maine in which 7½¢ an hour *plus* cost-of-living benefits were taken away from em-

Report for Cloth Finishers...

Regulation −5% to +30%
Speeds to 100 yds. per min.
Handles all fabrics, weights, finishes, colors and shades
Attaches to any tenter frame
Transfers easily frame to frame
Operates on a new principle
Fully adjustable, holds 1/16" tolerance

HERE ARE THE PROFIT POINTS—

The M&W Positive Overfeed with Selvage Guider regulates overfeeding positively and uniformly from −5% to +30% for all fabrics, of any weight or finish, at speeds up to 100 yds. per minute. A turn of the wheel changes the amount of overfeeding.

Pinning of each selvage on the tenter chain is adjustable, can be held within 1/16" tolerance. A photo-electric cell engages selvage—*instantaneously* corrects sidewise variations, is adjustable to react with equal efficiency to all shades and weights of fabric.

This all-ways adjustable unit attaches to practically all existing tenter frames (when equipped with M&W pin type tenter chains), is easily transferred from one frame to another.

On a wholly new principle, guider arm brings cloth to meet the rails, instead of rails to meet the cloth—gives you greatly increased speed and accuracy by moving ounces of aluminum instead of hundreds of pounds of cast iron.

Write today for free bulletin!

This device is manufactured exclusively in the U.S.A. under license from John Dalglish & Sons Limited of Thornliebank, Glasgow. Have us estimate the advantages of installation for *your* plant. Get our prompt cost-cutting counsel without obligation.

MARSHALL and WILLIAMS CORPORATION
PROVIDENCE, R. I. • GREENVILLE, S. C. • NEW YORK, N. Y.

New Huffman Holder Licks Picker Problems!

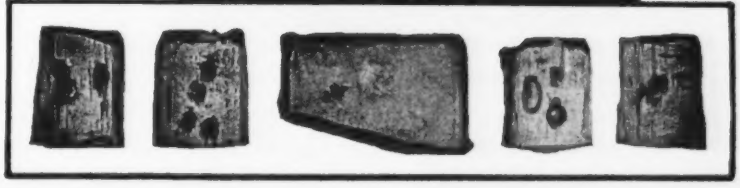
U. S. PAT. NO. 2,569,994

This shows how snugly the new Huffman interlocking metal holder bonds picker and picker stick. A simple turn of the socket wrench gives any desired adjustment. Cannot move or slip after adjustment.

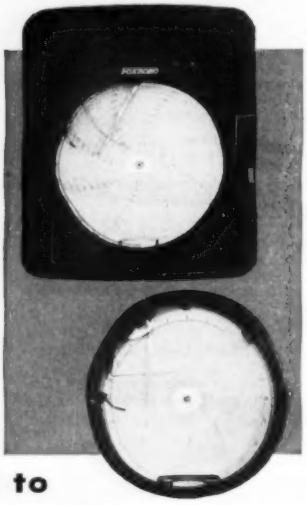
At last, an adjustable metal picker holder that holds pickers parallel with a bull-dog grip. Easily adjustable with socket wrench to any fraction of an inch. Interlocks picker and picker stick to greatly prolong life of both parts. Can be used over and over with our prepared sticks. Order today from . . .

THE HARDWOOD MFG. CO.
P. O. Box 929 Greenville, S. C.

Actual unretouched photos at right show damage caused to picker sticks and pickers by the old method of attaching and adjusting with common wood screws.



TEMPERATURE RECORDERS



to avoid lost profits

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TEMPERATURE RECORDERS

NEWS *of the Month*

ployees in an effort to meet the competition coming largely from the greater productivity of Southern help.

Massachusetts union workers may regain some of the 8½¢ cut after the 30th of this month when a new cost-of-living index will be figured.

Fluorescent Fabrics Held Patentable. The United States Court of Appeals for the District of Columbia has ruled that Switzer Brothers, Inc., Cleveland, Ohio, are entitled to a patent on daylight fluorescent fabrics and on the Switzer process for producing these fabrics. The unanimous decision of the appellate body followed an appeal brought by the Patent Office from a 1950 decision of the U. S. District Court in Washington, D. C.

On August 12, 1952, the Patent Office issued Patent No. 2,606,809, holding that the invention of Joseph L. Switzer, et al., had not been anticipated in any known dyeing process.

Messrs. Switzer and Ward discovered that if the molecules of a fluorescent dye are dispersed throughout the filaments of a fabric, instead of being coated on the outside of the filaments, the dye will emit a fluorescence in response to and in the presence of ordinary visible light. It appears that when these molecules are thus dispersed, the fabric not only reflects the selected color, as it does under ordinary dyeing, but utilizes the light energy that is wasted when the fabric absorbs the other colors, and so the fabric emits a fluorescent light, in the selected color, in addition to the reflected light.

In the process, well-known dyes and well-known fabrics are used; and the several separate steps of the process, such as immersion, drying, etc., are all well known. However, the precise steps taken by the Switzers, the proportions of the ingredients used, the order in which the steps are taken, and

Textile Calendar

Southern Hosiery Mfrs. Assn., annual convention, Hotel Roanoke, Va., Sept. 4 and 5, 1952.

7th National Chemical Exposition, Coliseum, Chicago, Ill., Sept. 9 to 13, 1952.

AATT, monthly meeting, Builders Club, New York, Sept. 10, 1952.

Fiber Society, fall meeting, Princeton, N. J., Sept. 10 and 11, 1952.

AATCC, Piedmont Sect., Hotel Charlotte, Charlotte, N. C., Sept. 12 and 13, 1952.

AATCC, Southeastern Sect., Atlanta, Ga., Sept. 13, 1952.

Third Canadian Textile Seminar, Queen's University, Kingston, Ont., Sept. 11 to 13, 1952.

AATCC, Philadelphia Sect., Penn-Sheraton Hotel, Philadelphia, Pa., Sept. 12, 1952.

AATCC, council meeting, New York, Sept. 19, 1952.

AATCC, general research committee meeting, New York, Sept. 19, 1952.

NACM, annual meeting, Portsmouth, N. H., Sept. 25 and 26, 1952.

Maintenance Engineer's School, course on evaporative cooling and refrigeration, Robert E. Lee Hotel, Winston-Salem, N. C., Sept. 29 to Oct. 10, 1952.

AATT, monthly meeting, Builders Club, New York, Oct. 1, 1952.

AATCC, Western New Eng. Sect., Rapp's Restaurant, Shelton, Conn., Oct. 3, 1952.

17th Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 6 to 11, 1952.

AATCC, Pacific Southwest Sect., Ojai Country Club, Ojai, Calif., Oct. 6, 1952.

The Quartermaster Assn., annual convention, Biltmore Hotel, Atlanta, Ga., Oct. 16 and 17, 1952.

Packaging Institute, annual forum, Hotel Commodore, New York, Oct. 20 to 22, 1952.

Natl. Safety Congress and Exposition; Conrad Hilton, Congress, Morrison, and Sheraton Hotels, Chicago, Ill.; Oct. 20 to 24, 1952.

Beltwide Cotton Mechanization Conference, San Joaquin Valley, Calif., Oct. 22 to 24, 1952.

AATT, Monthly meeting, Builders Club, New York, Nov. 5, 1952.

AATCC, national convention and dyeing and finishing exposition, Hotel Statler, Boston, Mass., Nov. 6 to 8, 1952.

AATCC, council meeting, Boston, Mass., Nov. 6, 1952.

AATCC, general research committee meeting, Boston, Mass., Nov. 6, 1952.

AATCC, Western New Eng. Sect., Rapp's Restaurant, Shelton, Conn., Nov. 3, 1952.

Carded Yarn Assn. and **Southern Combed Yarn Spinners Assn.,** annual convention cruise to Bermuda, Nov. 14 to 22, 1952.

TRI, annual meeting, Hotel Commodore, New York, Nov. 17 and 18, 1952.

20th National Power Show, Grand Central Palace, New York, Dec. 1 to 6, 1952.

AATT, monthly meeting, Builders Club, New York, Dec. 3, 1952.

AATCC, Northern New Eng. Sect., annual meeting, LTI, Lowell, Mass., Dec. 6, 1952.

AATCC, Western New Eng. Sect., Rapp's Restaurant, Shelton, Conn., Dec. 12, 1952.

1953

Plant Maintenance Show, Public Auditorium, Cleveland, Ohio, Jan. 19 to 22, 1953.

Air Conditioning Show, International Heating and Ventilating Exposition; International Amphitheatre, Chicago, Ill.; Jan. 26 to 30, 1953.

ACMI, annual convention, Palm Beach Biltmore Hotel, Palm Beach, Fla., March 26 to 28, 1953.

22nd AMA National Packaging Exposition, Navy Pier, Chicago, Ill., April 20 to 24, 1953.

Natl. Assn., of Hosiery Mfrs., annual convention and conference, Claridge Hotel, Atlantic City, N. J., April 27 and 28, 1953.

Knitting Arts Exhibition, Atlantic City Auditorium, Atlantic City, N. J., April 27 to May 1, 1953.

Materials Handling Exposition, Convention Hall, Philadelphia, Pa., May 18 to 22, 1953.

Textile Institute, annual conference, Llandudno, North Wales, May 25 to 30, 1953.

International Exposition of Fabrics, Fibers, Finishes, and Yarns; Waldorf-Astoria Hotel, New York, July 27 to 31, 1953.

AATCC, national convention, Stevens Hotel, Chicago, Ill., Sept. 17 to 19, 1953.

1954

Knitting and Allied Crafts Exposition, Grand Central Palace, New York, April, 1954.

American Textile Machinery Exhibition, sponsored by American Textile Machinery Association, Atlantic City Auditorium, Atlantic City, N. J., April 26 to May 1, 1954.

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No. 27 of a series

Calco

Superior Fastness Properties of New Dye Actually Improved by Aftertreatment with Resins

Calcodur* Resin Fast Orange 5G is the newest addition to our fast-selling line of Calcodur Resin Fast Dyes. Not only does the self-shade produce shades of superior fastness properties for

a direct dye, but it actually improves in fastness to light and other properties when after-treated with resins.

We recommend Calcodur Resin Fast Orange 5G for use by the procedures followed in the mill for direct dyes. Its good solubility, level dyeing and uniform exhaustion properties will give good results alone or in combination on viscose or cotton. In the case of viscose acetate fabric, Calcodur Resin Fast Orange 5G will dye viscose while leaving the acetate essentially white.

Although we do not recommend it as a straight wool dye, Calcodur Resin Fast Orange 5G produces quite a satisfactory union in wool-union dyeing. It also produces a good balanced shade between cotton and viscose when used for dyeing fabrics containing these fibers.

*Trade-mark

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Calconyl* Double Solutions offer printers the outstanding advantages of their higher concentration.

Printing pastes for sharp prints and outlines are easy to prepare with these concentrated solutions. Since only a small amount of Double Solution, as compared to weaker solutions, is required to produce the desired shade, excessive dilution of the print paste is not encountered. Neither is it necessary to make up a special thick paste in order to obtain the final desirable results.

These advantages, coupled with excellent stability, less bulk in storage and other good properties, make Calconyl Double Solutions the advantageous products to use in the print shop.

CALCOMINE* YELLOW BROWN K EXTRA

A splendid example of the improvements in quality which can be made when carefully controlled intermediates are combined with careful workmanship.

Calcomine Yellow Brown K Extra has excellent solubility and leveling properties and provides a most economical base for brown and mode shades. Aftertreatment with copper, chrome, and acetic acid reddens the shade but produces an improvement in the fastness to light and washing.

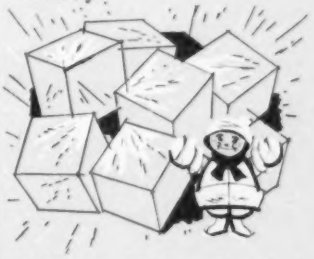
For the Textile Bookshelf

Aniline Black (*Calco Technical Bulletin No.* 821).

A timely review of the important methods for Aniline Blacks, which are enjoying increasing acceptance from cotton and rayon printers. The fastness properties, uses and application methods of the various Aniline Blacks are discussed and fully described.

Application of Dyes to New Synthetic Fibers (*Calco Technical Bulletin No.* 826).

A carefully compiled record of existing data on the new synthetic fibers. Dyeing methods for the coloring of the new synthetic fibers and fastness properties to look for are covered in this study.



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the various other details are new with the Cleveland company, the court and Patent Office have held.

TWUA Funds in Trust. Funds and property taken over by the Textile Workers Union of America, CIO, in connection with the secession movement indulged in by some local unions and joint boards will be held in trust for eventual return to local control, it has been made known by Emil Rieve, TWUA general president. All TWUA administrators have been notified of the executive-council action.

There is no question that the assets of all local unions and joint boards are the property of the international union, Mr. Rieve said. The union constitution "makes this perfectly clear." But this property is not being added to the general funds of TWUA. It is being held in separate accounts.

Whenever a local union or joint board rids itself of dual-unionism, or whenever a new local union or joint board is chartered in the place of a dual-union group, all union assets taken over for the sake of protection are to be returned to local custody.

Synthetic-Fiber-Mills' Wage Averages. Production workers in textile mills predominantly engaged in processing synthetic fibers averaged $1.27 an hour in March, 1952, exclusive of premium pay for overtime and night work, according to a survey made by the Bureau of Labor Statistics, U. S. Dept. of Labor, Washington 25, D. C. Although earnings of individual workers ranged from 75¢ to more than $2.10 an hour, the middle 50% earned from $1.05 to $1.45.

Earnings in weaving mills averaged $1.34 an hour, 18¢ and 7¢ more than the respective earnings in yarn mills and in integrated mills. Earnings in yarn mills averaged $1.16. About two-thirds of the labor force of yarn mills, whose operations include the spinning of staple and the throwing of filament fibers, are women. Women are generally engaged in the less skilled jobs and hence have earning levels lower than men. Workers in integrated mills, which spin and/or throw yarn and weave the yarn into cloth, averaged $1.27 an hour.

Of the 96,000 production workers in synthetic-textile manufacturing, 53,000 were employed in the Southeast, 25,000 in the Middle Atlantic States, and 18,000 in New England. Regional earnings averaged $1.39 in New England, $1.32 in the Middle Atlantic States, and $1.20 in the Southeast. The levels in New England and the Southeast were 1 and 3¢ higher than the respective averages in March, 1952, that were shown in an earlier Bureau survey of cotton-textile manufacturing.

(*Continued on page 386*)

WOOLEN CARDING AND SPINNING were studied by these men in a concentrated two-week's course in July at Lowell Textile Institute.

First row (l. to r.): R. L. Brown (LTI), M. C. Stone, Jr. (Deering-Milliken), W. W. Gleason (Western Felt Works), G. Plamondon (Merrimack Woolen Mills), G. L. Blankin, Jr. (Blankin Yarn Co.), Prof. J. H. Kennedy, Jr. (LTI), P. Guiseley (Waterbury Felt Co.), D. J. Grieco (Davis & Furber), L. F. Millet (Albany Felt Co.), and J. Payelian (Davis & Furber).

Second row (l. to r.): H. D. Schoelles (Lockport Felt Co.), L. Windle (Davis & Furber), R. C. Clare (Lockport Felt Co.), J. Thompson (Textile Weavers Ltd.), B. R. Smith (M. T. Stevens Southern), I. A. Crowe (Continental Mills), J. A. Doherty (Albany Felt Co.), R. L. Volker (M. T. Stevens), and M. D. Holmes (Alexander Smith).

Third row (l. to r.): F. J. Haining (Knox Woolen Co.), J. Hagler (Alexander Smith), L. F. Krommes (James Irving & Son), W. E. Andrews (Davis & Furber), A. E. Horton, Jr. (Knox Woolen Co.), A. W. Moore, Jr. (Blankin Yarn Co.), H. R. Carlson (A & M Karagheusian), L. Fortune (Darr Woolen Co.), and G. D. Patterson (Bigelow-Sanford).

Fourth row (l. to r.): F. W. Stott (Peerless Textiles), G. Biddle (Peerless Woolen Mills), J. E. Banks (Peerless Woolen Mills), R. C. Scott (TEXTILE WORLD), T. Tobin (Alexander Smith), W. J. Belovari (Newlands & Co. Ltd.), J. S. Bakke (Albany Felt Co.), W. G. Michaels (Peerless Woolen Mills), and H. Nickel (Dominion Rubber Co. Ltd., Textile Div.).

Absent at the time the picture was taken were J. F. Chupka (Packard Mills), M. Holmes (Alexander Smith), and S. O. Smith (Fieldcrest Blanket Mills).

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NEWS ABOUT Suppliers

Equipment Suppliers

Barber-Colman Co., Rockford, Ill., has announced the following personnel changes: John H. Spencer has retired as manager of the Greenville office, a position he held for 45 yr. He has been succeeded by Fred D. Taylor, for the past 14 yr. manager of the Framingham office. Lester L. Lideen, Rockford, Ill., will become manager of the Framingham office. William P. Turner, formerly sales engineer at the Framingham office, has been transferred to the head office at Rockford and will be export sales manager for textile machinery. Ralph W. Cotta has been transferred from the Rockford office to the Framingham office as sales engineer for textile machinery. K. C. Morrison, who has been sales engineer for textile machinery at the Framingham office, has been transferred to the door division. He will have charge of sales and manufacture of Barber-Colman overhead-type doors and electric operators in New England.

Crompton & Knowles Loom Works, Worcester, Mass., has announced that Frank E. Colesworthy, purchasing agent since 1920, retired after 53 yr. of service. He will be succeeded by John H. Johnson, who has been assistant purchasing agent.

General Textile Machinery Co., Philadelphia, Pa., has been appointed agent for the J. C. Paddock Co., Spartanburg, S. C., in the following states: Pennsylvania, Delaware, Maryland, Ohio, Indiana, Illinois, Iowa, West Virginia, Kentucky, Wisconsin, Minnesota, and Michigan.

Graton & Knight Co., Worcester, Mass., has announced the appointment of Jackson L. Parker as advertising and merchandising manager of the company. In this capacity, he will also direct sales-promotion activities for the G&K affiliates, International Packings Corp., manufacturer of synthetic rubber packings; and Dixie Leather Corp., manufacturer of textile leather.

Graver Water Conditioning Co., New York, N. Y., has announced the establishment of a research and product-development department under the direction of Vincent J. Calise, who has developed many of the company's equipment designs since its establishment as a division of Graver Tank & Mfg. Co., Inc. Marvin Lane has been made technical manager. He has been the company's chief chemist since 1949.

CARROLL A. CAMPBELL (left) and FRANK AIKEN (right) have been appointed to the new U. S. Bobbin & Shuttle Co. Greenville, S. C., office. Mr. Campbell will be Southern manager; Mr. Aiken, executive engineer.

News About **SUPPLIERS** (Continued)

MARION O. MOULTON (left) has been made assistant manager of the Union Special Machine Co. Atlanta, Ga., office. Z. X. Bennett has been moved to St. Louis, Mo., as assistant manager.

Howard Bros. Mfg. Co., Worcester, Mass., has appointed Charles A. Haynes, Jr., its representative to the woolen and worsted mills in New England and eastern Canada. He replaces the late Ralph C. Shorey.

Jenkins Bros., New York, N. Y., has appointed Herbert H. Jaynes New England manager of the firm. Since joining the company in 1931, Mr. Jaynes has been field representative and assistant Boston manager. He succeeds Mr. Anthony D. Weber, retired.

Lestershire Spool & Mfg. Co., Johnson City, N. Y., has announced that it is no longer represented in the Middle Atlantic area by William S. Taylor and Co., manufacturer's representatives. W. H. Hobbs has been appointed district manager and will be at the office of National Vulcanized Fibre Co., 30 Church Street, New York, N. Y., or at the home office.

C. G. Sargent's Sons Corp., Graniteville, Mass., held a stockholders meeting recently following the death of the company's late president, A. C. Sargent. The following officers were elected: president, Mrs. Harriet Sargent Hildreth; treasurer and general manager, F. Stanley Smith; assistant treasurer and clerk, Raymond D. Tellier.

J. E. Sirrine Co., Greenville, S. C., has announced the withdrawal from the partnership of William S. Lindsay and the addition to the partnership of George W. Cumbus.

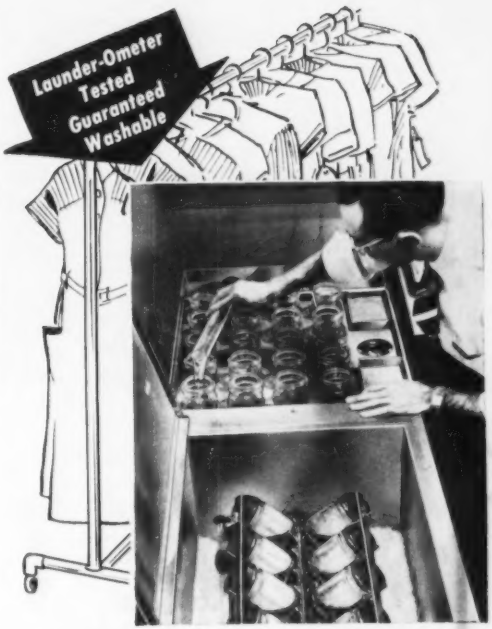
SKF Industries, Inc., Philadelphia, Pa., has made Frank J. Matte supervisor of textile-development sales. He had been the company's Southern textile representative. John O. Cushing has been appointed sales engineer of the firm to cover Southern textile developments. He will be located in Greenville, S. C.

Standard Mill Supply Co., Providence, R. I., has announced that Charles A. Knutton, Jr., its assistant secretary, who has been associated with the company for the past 15 yr., has been appointed vice president and manager of Standard Mill Supply, Inc., of Charlotte, N. C.

Stiles Conveyors and Transmissions, Miami, Fla., has been formed by John W. Stiles, formerly president of Island Equipment Corp., Long Island City, N. Y. The new company will be factory distributor for materials-handling equipment, conveyors, packaging machinery, and transmission parts, and will cover Florida, with sales branches at Tampa and Jacksonville.

Textile Equipment Corp., W. D. Dodenhoff Co., Greenville, S. C., has placed William F. Leineweber, Jr., in charge of all machinery sales. He is vice president in charge of engineering.

Universal Winding Co., Providence, R. I., has relocated and consolidated its Charlotte, N. C., winding and twisting division offices in new quarters located at 1005 W. Morehead Street.



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The Launder-Ometer is also in widespread use for the laboratory dyeing of leathers and textiles and for the testing of dry-cleaning oils and solvents and the efficiency of detergents and soaps. As many as 20 samples can be conducted simultaneously and conditions used for any given test can be reproduced at any time.

Operation of the Launder-Ometer is simple. It is a carefully built machine, soundly constructed, and economical in maintenance and operating costs. Available in 3 sizes with capacities of 20 one pint jars, 20 one quart jars, or 6 two quart jars plus any combination of 10 one pint jars or 10 one quart jars. All models are electrically driven, ¼ HP to ½ HP.

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JAMES W. LEDERER will be in charge of the new office of Richmond Oil, Soap & Chemical Co., Inc., at Chattanooga, Tenn.

JAY S. GOSNELL has joined American Lava Corp., Chattanooga, Tenn., as Northern and Eastern sales representaive.

Chemical & Yarn Suppliers

American Cyanamid Co., Calco Chemical Div., Bound Brook, N. J., has named E. C. Medcalf head of the coal tar chemicals department, succeeding the late Q. T. Dickinson. H. C. Little, director of employee relations, has also been named assistant to the president.

Caldwell Chemical Co., Inc., New York, N. Y., has announced that Joseph P. Madden, formerly assistant sales manager of the Stauffer Chemical Co., New York, has become vice president and a director of Caldwell.

Chemstrand Corp., Decatur, Ala., has named Dr. John B. Miles textile development engineer for the research and development department. Robert W. Towne has been made technical personnel superintendent. Lewis T. Gifford will assist Mr. Towne, and Robert B. Chapman has been named office manager for the firm's administrative headquarters.

Colton Chemical Co., Cleveland, Ohio, has opened a new plant where polyvinyl alcohol, manufactured under the tradename "Vinol" will be produced.

Dow Chemical Co., Midland, Mich., has appointed Raymond F. Boyer, former director of the company's physical-research laboratory, as manager of plastics and high-polymer research. He will be succeeded by Dr. William C. Bauman, assistant director of the laboratory, and will replace L. C. Chamberlain, who has been named assistant to the director of research, Dr. R. H. Boundy.

Hercules Powder Co., Wilmington, Del., has appointed Werner C. Brown an assistant director of sales for its cellulose-products department. He had been supervisor of CMC sales.

Heyden Chemical Corp., New York, N. Y., has moved its executive offices to 342 Madison Ave. The Philadelphia branch sales office has been moved to the Lincoln-Liberty Building, Broad and Chestnut Streets.

Libbey-Owens-Ford Glass Co., Toledo, Ohio, is making an additional series of glass textile yarns to double the number of specified types produced. The Parkersburg, W. Va., factory is now producing "225" industrial yarns, a considerably finer type than the "150" series with which LOF started its operations a few months ago.

Owens-Corning Fiberglas Corp., Toledo, Ohio, has appointed Dr. Alfred Marzocchi manager of the textile-chemistry section of the Fiberglas textile-products laboratory at Ashton, R. I.

Pittsburgh Coke & Chemical Co., Pittsburgh, Pa., has named Karl C. Ruppenthal technical supervisor of the firm's new fine-chemicals division. He will be in charge of the sales-service laboratories.

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Woods Sheaves • V-Belts • Anti-friction Bearings • Stock Flat Belt Pulleys • Hangers Pillow Blocks • Couplings • Collars • Made-to-order Sheaves and Pulleys • "Sure-Grip" Standard, Super and Steel Cable V-Belts • Complete Drives.

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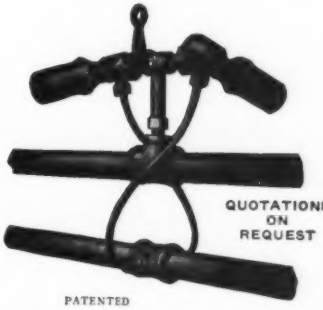

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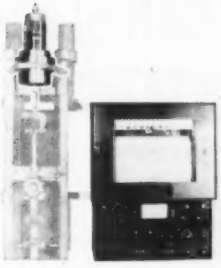

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Now you can remove instantly, simply and safely static charges on all textile fibres, slivers, roving, yarns and fabric. This means the elimination of a costly production handicap. A HERBERT OXY COLD BAR attached to the machine on which you are experiencing static interference . . . and presto your troubles are over. You will get unbroken card slivers . . . no flying ends . . . no sticking. Your machines will handle material of any fibre smoother, easier and faster. Beat high production costs by curing "static expense".

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HERBERT PRODUCTS Inc. 74-37 JAMAICA AVE. WOODHAVEN 21, N. Y.

News About **SUPPLIERS** (Continued)

BOYCE BOND has been made sales supervisor of the Fine Chemicals Div. of Pittsburgh Coke & Chemical Co. in the Villanova, Pa., office.

DONALD A. BARNES has been appointed a technical sales representative of A. E. Staley Mfg. Co. He was formerly with Arnold, Hoffman & Co., Inc.

Pittsburgh Plate Glass Co., Pittsburgh, Pa., has appointed Dr. George S. Bachman director of research for its new Fiber Glass division. Dr. Bachman joined the company in 1947 and since then has been associated with the glass division research laboratories at Creighton, Pa.

Sun Chemical Corp., New York, N. Y., has announced the resignation of Ernest Nathan as vice president of the company and as chairman of the chemicals group comprising the Warwick Wax Subsidiary and Warwick Chemical Div. of Sun Chemical.

Union Carbide & Carbon Corp., New York, has announced four appointments to the textile-fibers department of Carbide and Carbon Chemicals Co. Richard S. Brissette will be a technical representative for textile fibers in the New England area. Hugh L. Carolan will be engaged in fiber advertising and promotion activities in the New York office. Roger A. Lewis has joined the dynel production and operating department at South Charleston, W. Va. Robert A. Simmons will be associated with the development service laboratory at South Charleston, W. Va.

Woonsocket Color & Chemical Co., Woonsocket, R. I., has announced that Mr. Amos K. Hobby has resumed his position as chemist in the chemical research laboratory of the company. Mr. Hobby was formerly associated with Merck & Co., Rahway, N. J., Onyx Oil and Chemical Co., and Anglo Fabrics.

Other Services

Clemson College, Clemson, S. C., has promoted the following men in the School of Textiles: R. G. Carson, from assistant to associate professor of textiles; T. D. Efland, from instructor in knitting to assistant professor of knitting; J. C. Hubbard, from assistant to associate professor of weaving; and L. H. Jameson, from instructor in textiles to assistant professor of textiles.

Georgia Institute of Technology, Atlanta, Ga., has announced the award of three 4-yr. scholarships by the Textile Education Foundation, Inc., of Atlanta. The recipients were: James Edward Haynes, Manchester; Homer Douglas Moody, Greensboro, and Thomas G. Ellington, Jr., Thomaston.

United States Testing Co., Inc., Hoboken, N. J., has announced that it recently entered into a certification agreement with Interchemical Corp., Textile Colors Div., Hawthorne, N. J. The agreement, although certifying a product manufactured by Interchemical Corp., applies to the finished product as it leaves the printers. Color fastness properties are covered.

NEWS ABOUT *Mills*

Cotton Mills

Anniston Mfg. Co., Anniston, Ala., recently completed a cloth warehouse of brick, concrete, and steel construction. The one-story structure has about 12,000 sq. ft. of floor space and cost about $60,000. The company recently added eight Saco-Lowell spinning frames and 10 new cards.

Beaumont Mills, Spartanburg, S. C., recently completed a modern warehouse. Built at an estimated cost of $125,000, it will be used for cloth and cotton storage.

Bromley Mfg. Co., Philadelphia, Pa., has purchased the lace-loom equipment of Wilkes-Barre Lace Co., Wilkes-Barre, Pa. This additional equipment will increase Bromley's lace production by 75%.

Cannon Mills, Kannapolis, N. C., is reported to be installing American Monorail cleaning equipment in its Plant No. 9 in Concord and its Plant 1, Mill 1, in Kannapolis.

Chicopee Mills, New York, N. Y., has purchased property at 49 Worth St. and will consolidate all its New York offices there.

Cosmos Div., Imperial Mills, Yarmouth, N. S., is having extensive repairs and alterations made to its office annex.

Dean & Sherk Co., Lawrenceburg, Ky., the industrial-thread subsidiary of American Yarn & Processing Co., has changed its name to American & Efird Mills in accordance with the new name of its parent company.

Erwin Mills, Inc., Durham, N. C., plans a new $2,650,000 modernization program that will include a new dyeing and finishing plant in West Durham. The existing plants at Erwin will receive $1,250,000 in improvements, and the remaining $1,400,000 will be divided between the company's plants in Cooleemee and Durham. Machinery to be installed includes new combers, new roving, and revamped spinning.

Fulton Bag & Cotton Mills, Atlanta, Ga., has awarded a contract for construction of a 75,000-sq.-ft. addition to its finishing plant and bleachery. New equipment will be installed. A. K. Adams & Co., Inc., Atlanta, Ga., is the architect.

A. D. Juilliard & Co. will establish another cotton-weaving plant at Aragon, Ga. The company is concluding its cotton-weaving operations in the North and transferring them to company plants at Aragon, Ga., and Brookford, N. C.

Major Mills, Spartanburg, S. C., has begun an extensive modernization program in the weaving department of its No. 1 mill. The plans call for the replacement of all the present 895 E. Model Draper looms with the latest Draper X-2 Model looms. The program will be completed early next year.

Reeves Bros., Spartanburg, S. C., has completed a $150,000 installation of 100 XP 50-in. Draper looms at its Woodruff plant. The installation of new winders and Abbott quillers is under way at a cost of about $65,000.

Trenton Cotton Mills, Gastonia, N. C., has been sold to J. W. Abernathy of Newton, N. C., and A. Alex Shuford, Jr., Hickory, N. C.

United Cotton Mills Ltd., St. John's, Newfoundland, has started work on a small building on its textile-mill site to be used as a training school. Construction is in charge of Werner Stoubiers, Germany, engineers for the company, which will ultimately erect three plants on a 20-acre location. The first unit will be for spinning, second for weaving, and third for fabricating finished goods into various articles.

how to prevent lead sulphide stains on viscose fiber

... Versene* (REGULAR)

LEAD SULPHIDE SOLUBLE IN VERSENE*

Sulfuric acid, stored in lead, forms lead sulfate which usually deposits on the Viscose fiber as it is coagulated. If this lead is not removed, subsequent desulfurizing precipitates it as the black sulfide. This results in a grey-stained yarn. A Versene rinse can remove the lead at any time — if equipment for a recycled wash is available in the processing line.

VERSENE* MAKES VISCOSE WHITE

Lead compounds, including Lead Sulfide, are soluble in weakly acidic Versene solution. For maximum efficiency, the Versene should be used as a rinse after the acid-coagulating bath and before desulfurizing. The pH of the Versene should be approximately 5.5. Versene cannot be added to the acid-coagulating bath because the lead chelate (complex) of Versene will not be formed in strongly acid solutions. When properly used, Versene assures a *white* yarn.

VERSENE* — WHAT IT IS

Versene (regular) is one of a family of powerful organic complexing agents for the exacting chemical control of cations in solution. Known as ethylene diamine tetra acetic acid sodium salts, it has the ability to form soluble non-ionic chelates with polyvalent metallic ions. It permanently changes the character of these ions in solution. Amazingly stable at all temperatures and pH's, Versene is manufactured to highest specifications. Its uniform quality guarantees uniform results. Write Dept. D. Send for Technical Bulletin No. 2. Ask for sample.

NEW VERSENE WATER TEST KIT. Tells total hardness in two minutes. Accurate to one grain per gallon. Versenate Method. Complete Kit $5.00 Postpaid.

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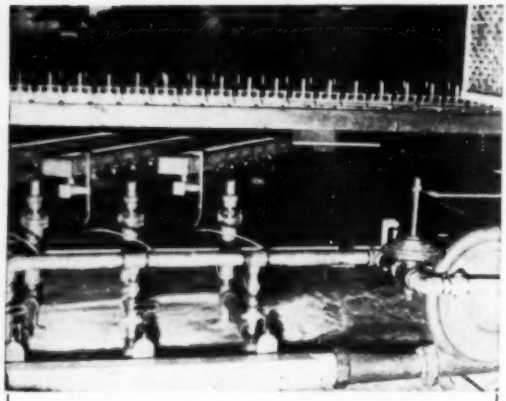
For more information, write direct or use Reader Service post card. 371



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Huyck blankets retain high shrinkage and finish properties to the last.

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News About MILLS

(Continued)

Woolen Mills

Abbott Worsted Co., Graniteville, Mass., is not planning to construct a worsted-cloth mill at Bridgeton, Me., as was previously reported in these columns. Some time ago the company purchased property in Bridgeton with the intention of eventually constructing a yarn mill.

Albany Felt Co., Albany N. Y., recently installed a new Crompton & Knowles felt loom for weaving paper-makers' felts.

Almac Felt Co., Toronto, Ont., is erecting a two-story addition, 50x100 ft., to its plant. Wilfred Shulman, Toronto, is the architect. The addition will be of concrete-block construction and will cost $20,000.

American Woolen Co., New York, N. Y., will spend $175,000 to convert the plant it has purchased at Tifton, Ga. The plant is expected to begin operations in about 6 mo.

Chatham Mfg. Co., Elkin, N. C., is planning to add a worsted-type spinning unit to manufacture both worsted and synthetic yarns. A small building will be constructed to house the additional machinery. Bernard Phillips, formerly carding and spinning overseer at Robbins Mills, Raeford, N. C., will be in charge.

Holyoke Textile Mfg. Co., Holyoke, Mass., formerly owned by Arms Textile Mfg. Co., is now part of the vertical organization established by Mr. Ackerman as Myron H. Ackerman Associates, Inc., 432 Fourth Ave., New York, N. Y. Mr. Ackerman lately resigned as president and general manager of Foundation Worsted Mills. His new organization has been formed to develop and manufacture neckwear interlinings exclusively.

Montrose Worsted Mills, Inc., Granby, Que., recently let contracts for the construction of a brick addition to its boiler house. Louis & Aspier, Montreal, is the architect. The general contractor is R. E. Stewart Construction Corp., Sherbrooke, Que.

Princeton Worsted Mills, Kingstree, S. C., has begun operations in its new plant, which will eventually operate about 144 looms. It is starting operations with 24 W-3 looms on Dacron cloth. The cloth will be shipped to the company's main plant in Trenton, N. J., for finishing.

Saskatchewan Wool Products, Moose Jaw, Sask., owned and operated by the Saskatchewan government, will soon produce men's work socks on 12 knitting machines that have been ordered along with other necessary machinery. Renovations in the plant have been completed.

Alexander Smith, Inc., Yonkers, N. Y.—It is understood that the bid of $1,553,333 by M. T. Reed Construction Co., Jackson, Miss., is acceptable for the construction of a new carpet mill at Greenville, Miss. Completion within 240 days is specified.

Wanskuck Co. and **Oakland Worsted Co.**, Burrillville, R. I., have been merged. The Burrillville concerns will be known as Wanskuck Co.-Oakland Mills.

Synthetics Mills

Burlington Mills has purchased Southern Silk Mill, Inc., Kernersville, N. C. Southern Silk is a rayon-weaving plant with about 200 looms.

Firestone Textiles Div. is installing additional rayon-processing machinery in its Gastonia, N. C., plant. Installation is to be completed soon.

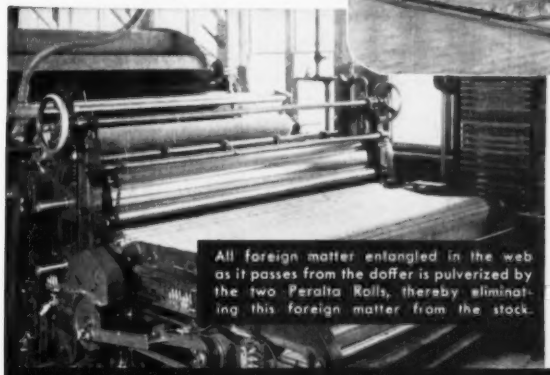
Oscar Heinemann Corp., Chicago, Ill., is building a new plant at Concord, N. C., to increase its capacity and to improve service to its Southern customers.

Loraine Yarn Mills, Philadelphia, Pa., will begin the production of fine and fancy yarns for knitted-outerwear manufacturers. Arthur La Pierre is the executive head. The company has built 10 fancy twister machines of its own design.

Duesberg-Bosson WOOLEN CARD and PERALTA MACHINE

(PATENTED)

Shown here: 3-cylinder set, with Peralta Machine. Also available in 2-cylinder and 4-cylinder sets.



All foreign matter entangled in the web as it passes from the doffer is pulverized by the two Peralta Rolls, thereby eliminating this foreign matter from the stock.

BUILT in two sizes, 78¾" and 72¾", this well-known woolen carding machine offers substantially greater production and noticeably improved quality because of inherent design features and operating advantages.

A new 2-cylinder carpet card now in operation in the Duesberg-Bosson Woolen Spinning Co., Jefferson, Mass., is causing great interest.

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Manufacturers of Woolen Machinery, Developed from a Background of Over 115 Years

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We will be pleased to give further information about the services rendered by our new Peter M. Fekula Division, as well as by our other departments.

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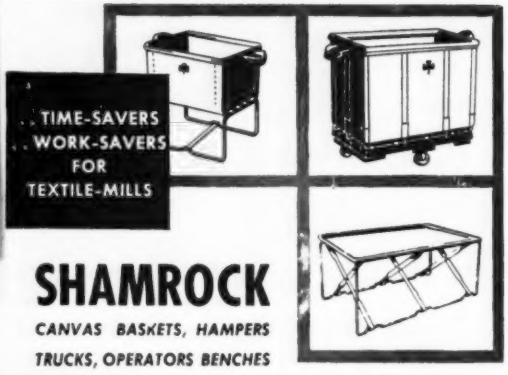

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News About **MILLS** (Continued)

Orr Mills, Lyons Div., Anderson, S. C., has completed a new $2,500,000 weaving plant, and 200 wide dobby looms are being installed. Ed Bolding will be manager of the division.

Phoenix Div. of Beaunit Mills, Statesville, N. C., has installed new looms and a new dyeing and finishing section. A. Schnitzer will be in charge of dyeing and finishing, and J. Fremont will be in charge of weaving.

Rex Mills, Inc., Ranlo, N. C., has received construction bids on a new one-story, 32x55-ft. laboratory. It will be air-conditioned.

J. P. Stevens & Co., New York, N. Y., has purchased more than 1,000 Draper XD 64-in. looms from the China Mill of Textron, Inc., Suncook, N. H. Included in the purchase were winders, warpers, and slashers. It is understood that this equipment will be parceled out among Stevens plants as occasion arises.

Woodside Mills, Inc., Anderson, S. C., has consolidated the operations of the Ottaray and Haynsworth plants. Ottaray equipment has been moved into the Haynsworth plant, to which an addition has been made. The Ottaray building is being used for storage.

Knitting Mills

Anne Hosiery Co., Concord, N. C., has begun the production of 54-gauge full-fashioned nylon hosiery with two 24-section machines.

Barber Hosiery Mills, Inc., Mt. Airy, N. C., is constructing a $75,000 addition to its plant. Fulk & Needham, Pilot Mountain, N. C., is the contractor.

Bernett Knitting Mills, Inc., Montreal, Que., has installed additional knitting machines that will increase the production of men's diamond, argyle, and plain hosiery.

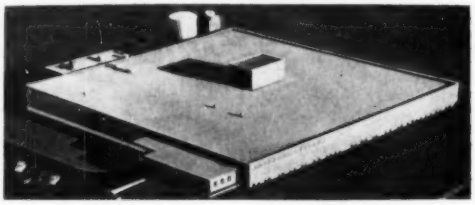
Bryan Full-Fashioned Mills, Inc., Chattanooga, Tenn., has installed a new-model double-head knitting machine for production of full-fashioned hosiery at its Rossville, Ga., plant. The company plans to install 32 heads in four units of 8 heads each.

Chadbourn Hosiery Mills, Charlotte, N. C., will consolidate its hosiery finishing at its local plant. Knitting machinery from Charlotte will be moved to the Gainesville, Ga., plant, and finishing equipment from Gainesville will be set up in the Charlotte plant.

Charleston Hosiery Mills, Inc., Cleveland, Tenn., recently opened its new finishing plant, adjacent to the mill, which finishes 30,000 doz. anklets and crew socks a week.

Chipman Knitting Mills, Easton, Pa., is now operating the first of two Kalio 66-gauge long-section hosiery machines. The second machine will be delivered soon. The installation is a continuation of the company's program on fine-gauge equipment. Entire production is now in 51-, 60- and 66-gauges.

Creston Full-Fashioned Hosiery Mills, Charlotte, N. C., has installed two 60-gauge full-fashioned machines in the first phase of the company's modernization program. Two 66-gauge machines will soon be delivered and installed.



TEXTRON SOUTHERN, INC., is building a 50,000-sq.-ft. addition to its Peerless Mills plant at Belton, S. C. About 480 additional looms with complementary equipment will be installed. The estimated cost of the project is $1,500,000. Daniel Construction Co., Greenville, S. C., is the contractor.

News About **MILLS** (Continued)

Ferguson Atlantic Underwear, Three Rivers, Ont., is erecting an 8,000-sq.-ft. mill addition that will cost $70,000 with equipment.

Glenwood Hosiery Mill, Raleigh, N. C., has been purchased by McBryde Albright, Burlington, N. C. The company will manufacture men's hosiery under the name of J. S. M. Hosiery Co.

Globe Knitting Works, Grand Rapids, Mich.—All officers and directors of this company have accepted the offer of purchase by Aetna Industrial Co., New York. Aetna is solely owned by Walter W. Weismann, chairman of the board. Other firms it controls and operates include Champlain Spinners, Whitehall, N. Y., and Oscar Heineman Corp., Chicago, Ill.

Gropper Knitting Mills, New York, N. Y., is moving its offices and plant from 40 West 20th St., to 23-01 22nd St., Long Island City, N. Y. Floor space will be doubled and 40 more employees added.

P. H. Hanes Knitting Co. will establish a branch at Sparta, N. C., in a building to be constructed by Allegheny Corp., Sparta, and leased by Hanes. Land and building will cost $200,000. Allegheny Corp. will give Hanes an option to purchase with a 10-yr. period.

Hoburt Hosiery Corp., New York, N. Y., has purchased two 66-gauge Kalio full-fashioned hosiery machines for its mill in Denton, N. C.

Holeproof Hosiery Co., Marietta, Ga., has completed a modernization program at its plant here at a cost of more than $1,000,000. The plant has more than 300,000 sq. ft. of floor area under one roof. Company officials have been meeting with the local Chamber of Commerce at Cullman, Ala., relative to a substantial enlargement of its local plant. The plan involves a new building with 100,000 sq. ft. floor space.

Huffman Full-Fashioned Mills, Morganton, N. C., is going into 66-gauge production on new 32-section machines.

Julius Kayser & Co., New York, N. Y., has completed a 10-yr. expansion and improvement program, representing a total investment of approximately $8,000,000 at various mills.

Klear-Knit, Inc., Independence, Va., is erecting a building that will add 8,500 sq. ft. to its manufacturing space.

Knit Sales Corp., Crossville, Tenn., has begun the manufacture of nylon lace in the former hosiery mill located in Cumberland Homesteads, Crossville. Eighteen new tricot machines have been installed.

Lisle Mills, Allentown, Pa., recently started operations in a plant at 930 No. 4th St., which it recently acquired from Julius Kayser & Co. This plant will conduct finishing and other operations, while knitting will be concentrated in Lisle's E. Hamilton St. plant. A third plant, at 4th and Cedar Sts., will concentrate on T-shirt production under the control of Kapar-T Mills, an associated firm.

Oneita Knitting Mills, Andrews, S. C., is planning to build a new 25,000-sq.-ft. plant to replace the one the company is now leasing. The leased plant will be used for storage purposes.

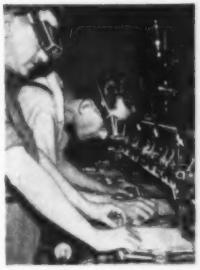
Queens Knitting Mills, Philadelphia, Pa., has purchased the real estate and equipment of George Grayson & Sons Co., Darby, Pa. The latter plant spins 2/20s worsted knitting yarn with a production of about 10,000 lb. weekly on two shifts.

Silknit Ltd., with branches in various Canadian cities, now has its new plant in Wiarton, Ontario, in full operation. Miss E. McDiarmid is superintendent.

Spalding Knitting Mills, Griffin, Ga., is installing a new 300-lb. Obermaier package-dyeing machine.

Standard Hosiery Mills is completing an extensive modernization program at its full-fashioned hosiery mill in Alamance, N. C. Included in the modernization were expansion of the gray-goods-processing room, installation of new seaming and inspecting equipment, and provision for new auxiliary equipment.

People work better when they



In the Durham Hosiery Mills

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REMOVING LINT and FLY

from the top rolls and other parts of the drafting elements on

SPINNING FRAMES also ROVING FRAMES

Spindle design permits using PICK (which gathers the fly and lint), 3/16" diameter by 5" long when used on Spinning Frames and 3/16" diameter by 7" long when used on Roving Frames. Exhaust air directed back of roll picker to prevent fly and lint from being blown into yarn when spinning by air deflector . . . Weight only 14 oz. Special grease-sealed bearings. No lubrication required.

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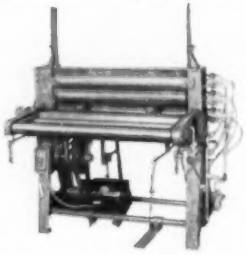

This fast, efficient 3-roll calender has heated rolls, with patented rotary joints and flexible metal hose, eliminating packing. A stream of live steam comes in contact with cloth only as it passes over the spreader. A foot pedal to lift rolls apart frees hands to start cloth.

The vari-speed motor is easily and quickly adjusted to any speed. Comes complete. Standard machines made in 36", 42", 48", and 54" width rolls. To special order 60", 66", and 72". For full details on this money and labor saving machine, write today.

2-Roll Calender—Made with heated or cold rolls, plain or felt covered. Has foot pedal to lift rolls apart. Comes complete in same sizes of rolls as 3-roll machines.

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News About MILLS (Continued)

Textron Southern, Inc., has abandoned plans for a proposed new nylon-tricot knitting mill at Elizabethton, Tenn., because of inability of the town to dispose of the bond issue of $6,000,000 for construction.

Vaughan Corp., Spruce Pine, N. C., is constructing a branch plant at Newland, N. C., which will be devoted to manufacture of men's hosiery and women's anklets. It is reported that 80 Komet knitting machines will be installed for initial operations in the new plant and that 40 additional machines will be installed later.

Washington Hosiery Mills Corp., a newly organized concern, is opening a mill in Washington, N. J. The company will be primarily concerned with finishing operations. Six knitting machines are scheduled to be installed. Joseph Milstein is president.

Zor-Knit Mills, Inc., Fort Lauderdale, Fla., headed by Joseph D. Zornik, is erecting a plant to be equipped for nylon-tricot production. The plant will operate 2- and 3-bar machines. The latest high-speed machines will be installed, including warping equipment.

Dyeing & Finishing Plants

Accurate Hosiery Finishers, New York, N. Y., has moved to new and larger quarters at 817 Broadway. The firm will have a weekly capacity of 1,200 doz.

American Thread Co., Sevier, N. C., expects to start up part of its new finishing plant soon. Full operation is expected by March, 1953. The building has 600,000 sq. ft. of floor space.

Barsol Finishers, Philadelphia, Pa., has been purchased by Charles McNeil, a partner in Allegheny Hosiery Finishing Co. Mr. McNeil has made the purchase personally, and it is not a merger with, or sale to, Allegheny.

Cluett Peabody & Co., Troy, N. Y., has sold its research-laboratory building on the city's north side to the Catholic Diocese of Albany for use as a central high school. Research facilities will be transferred to the main plant on River St.

Ely & Walker Dry Goods Co., St. Louis, Mo., will purchase the outstanding stock of Southern Bleachery & Print Works, Taylors, S. C., at $20 a share. There is said to be no change planned in personnel or operation.

Julius Kayser & Co., New York, N. Y., is nearing completion of its new $1,000,000 finishing plant at Liberty, S. C. Daniel Construction Co. is the contractor.

Queen Dyeing Co., Providence, R. I., a subsidiary of U. S. Finishing Co., Norwich, Conn., has been sold to Comfy Mfg. Co., Baltimore, Md. A modernization program for the Queen plant is in prospect, with improvements in services for other customers as well as for Comfy.

Ray-Ser Dyeing Co., Chattanooga, Tenn., recently installed equipment for high-temperature dyeing of synthetic yarns. The firm will add 4,000 sq. ft. of floor space to the dye house. Total cost of equipment is about $20,000.

Republic Cotton Mills, Great Falls, S. C., a division of J. P. Stevens & Co., Inc., plans an expansion of its new dyeing plant at Great Falls. Cost will be over $1,000,000.

Tryon Processing Co., Tryon, N. C., is nearing completion of the installation of high-temperature package-dyeing machinery for processing Orlon acrylic fiber, Dacron polyester fiber, nylon, dynel, etc. Equipment involves an expenditure of $200,000.

Woonsocket Dyeing Co., Inc., Woonsocket, R. I., has been purchased by George Dubois of Woonsocket. His son, Jacques E. Dubois, is general manager.

42
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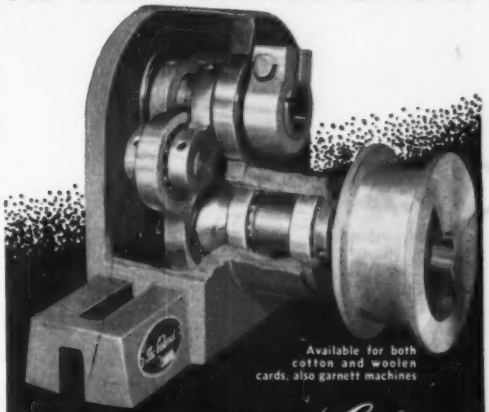

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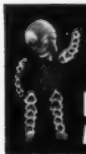

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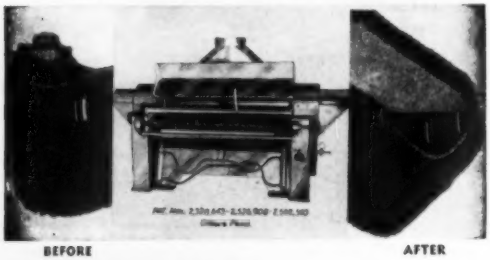

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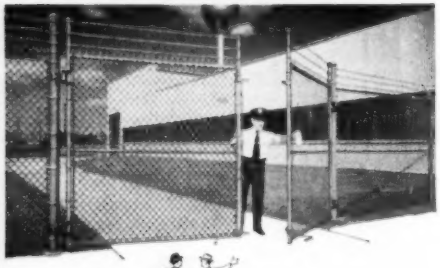

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NEWS ABOUT Men

Myron H. Ackerman has resigned as president and general manager of Foundation Worsted Mills, Portland, Ore.

Edmund Anelande has become plant manager at Delta Finishing Co., Plant No. 2, a division of J. P. Stevens & Co., Inc., Attleboro, Mass.

George H. Asquith has been made overseer of carding at Valley Woolen Mills, Inc., Homer, N. Y.

George E. Auclair, formerly with Burlington Mills at Greensboro, N. C., has been named chief chemist at Mount Hope Finishing Co., Butner, N. C.

Benjamin Babb, overseer of shipping at Shawsheen Mills of American Woolen Co., Andover, Mass., has retired after 51 yr. with the company.

W. A. Baldwin has become overseer of finishing at California Jersey Mills, Los Angeles, Calif.

Oswald Beck has been named overseer of finishing at Pacific Mills Worsted Div., Lawrence, Mass.

Donald Beal has become superintendent of Cowan Mills, Lewiston, Maine.

Sigfried Berhard has been made overseer of dyeing for Banner Yarn Co., Brooklyn, N. Y.

John Bell, secretary, vice president, and a director of Spool Cotton Co., New York, N. Y., has retired.

T. R. Bell has resigned as assistant secretary of Avondale Mills, Sylacauga, Ala., to go into private law business. He will continue working with Avondale Mills on a part-time basis. **Willie R. Austin** has been elected assistant secretary.

Charles S. Bennington has been named to the newly created office of tricot operations manager of Textron, Inc. Mr. Bennington will supervise the throwing plant at Pembroke, N. H., the knitting mills at Willimantic, Conn., and East Greenwich, R. I., and the finishing plant at East Greenwich, R. I.

EATON B. LLOYD, formerly with Dan River Mills, has been elected a vice president of Kenwood Mills, Albany, N. Y. He will be in charge of consumer fabric sales, succeeding J. Tracy Colby, retired.

Martin Bishop has become overseer of spinning at Winona Textile Mills, Inc., Winona, Minn.

Ed Bolding, formerly with Jackson Mills at Wellford, S. C., has become manager of the Lions Div. of M. Lowenstein & Sons, Anderson, S. C.

Charles W. Borne has joined Wyandotte Worsted Co., New York, N. Y. He recently resigned as vice president of William Whitman Co., Inc.

George M. Bott has become superintendent at Cheshire Mills, Harrisville, N. H., succeeding **W. Hetherman.**

G. E. Boucher has resigned as overseer of carding at Crown Mills, Marcellus, N. Y., and has become overseer of carding at Faulkner & Colony Mfg. Co., Keene, N. H., succeeding **J. Firth**, resigned.

Richard Bower has become overseer of dyeing at Putnam Woolen Co., Putnam, Conn.

News About **MEN** (Continued)

Tom Boyd has been named head chemist in the dyehouse laboratory of the Valdese Mfg. Co., Valdese, N. C. He was formerly with Moorseville Mills, Mooresville, N. C.

H. C. Brown, formerly with Sapphire Hosiery Co., Philadelphia, Pa., has been appointed to head the new fabric-development division of Penwood Mills, Inc., Philadelphia, Pa.

Millard L. Brown, secretary of Continental Mills, Philadelphia, Pa., has been elected treasurer.

Henry H. Burton was elected a vice president, director, and a member of the executive committee of Textron, Inc., Providence, R. I.

O. Byron has been made superintendent of scouring at Lobsitz Mills Co., Nutley, N. J., succeeding **J. A. Farrington.**

Henry Caldrice has become overseer of finishing at Deena Woolen Mills, Sabattus, Me.

H. B. Campbell, assistant superintendent of Abney Mills, Woodford, N. C., has been promoted to superintendent of the Abney Mill, Courtney, S. C. **B. E. Ross**, night superintendent, has succeeded Mr. Campbell at Woodruff. **James Tiller**, who has been night overseer of weaving, has become night superintendent, succeeding Mr. Ross.

Alfred Case has become dyer and chemist for Palatine Dyeing Co., St. Johnsville, N. Y., succeeding **Harold Rogers**, resigned.

Archie Chevrette has joined Swanknit, Inc., Cohoes, N. Y., in charge of the bleachery and dyehouse operations.

Joseph W. Costello has become overseer of finishing at Kennebec Mills, Fairfield, Maine.

Walter Cummings has resigned as superintendent of Baltic Mills of American Woolen Co., Inc., Enfield, N. H., and has been succeeded by **Borden Billings.**

Ralph E. Curtis, general superintendent of the Bates Div. of Bates Mfg. Co., Lewiston, Me., has been appointed plant manager of that division. His former duties will be divided between **R. A. Landry**, who will be superintendent of carding, spinning, and slashing, and **W. P. Malloy**, who will be superintendent of weaving. **Raymond R. Coulombe** has been named overseer of carding at the Hill Div., succeeding Mr. Landry.

J. R. Cushman has become overseer of spinning at Cambridge Woolen Corp., Cambridge City, Ind.

J. A. Dancewicz has resigned as superintendent of the Blackstone Mill, Blackstone, Mass., lately acquired by Textron, Inc.

M. A. Dean has resigned as manager of Corriedale Mills, Moosup, Conn., and is now assistant superintendent at Imperial Worsted Co., Woonsocket, R. I.

David Dott, Jr., treasurer and general manager, and **Ethan Goodnow**, superintendent in charge of production, have resigned from Raycrest Mills, Pawtucket, R. I.

W. O. Eack has resigned as overseer of carding at Birdsall Bros. plant located at Honesdale, Pa.

Felix Ferrar has become overseer of spinning at Sheble & Wood Yarn Corp., Salamanca, N. Y.

Charles S. Fowler has become director of research and development at Pepperell Mfg. Co., Boston, Mass. He will make his office in New York.

John Gaffney has been named plant manager of Ludlow Mfg. & Sales Co., Ludlow, Mass., succeeding **Edward Hartmann**, who has been transferred to the firm's Boston office.

William Gaunt has returned to Holland Mfg. Co., Stroudsburg, Pa., as overseer of dyeing.

Joseph Goglinski has become superintendent of Bennington Mills Div. of Suffolk Knitting Co., Lowell, Mass.

Frank R. Granelsbach has become director of industrial relations for Textron Southern, Inc., with headquarters in Anderson, S. C.

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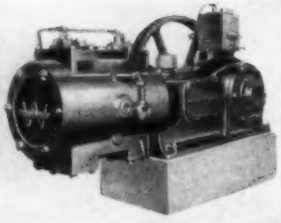

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News About **MEN** (Continued)

Paul Groover, vice president of the cotton and rayon division of Pacific Mills, Boston, for the past 10 yr., has been elected executive vice president of the company. He will move his headquarters from Lyman, S. C., to Boston.

Norman Hamel has become overseer of dyeing at Norwich Mills of American Woolen Co., Norwich, Conn., succeeding **M. McNamara**, resigned.

Dudley J. Hayward has become overseer of knit-goods finishing at T. A. Harris Co., Philadelphia, Pa.

Edgar L. Henderson, Jr., was elected secretary of West Point Mfg. Co., West Point, Ga., succeeding **Edward C. Hunt.**

F. Guy Henley has retired as vice president and general manager of W. B. Davis Hosiery Mill, Inc., Fort Payne, Ala.

L. B. Hoard has resigned as overseer of carding for Dana Warp Mills, Westbrook, Me., and has been succeeded by **Raymond F. Johnson.**

Joseph E. Johnson has retired as superintendent and assistant manager of Grier Mills and Gordon Spinning Co., North Wilkesboro, N. C.

John A. Kenrick, a vice president, was elected to the board of Aberfoyle Mfg. Co., Philadelphia, Pa., to succeed the late **Charles A. Turner.**

John E. Kinsey has become overseer of weaving at Blackinton Mills, Inc., Conestee, S. C.

W. H. Kordt has joined Fulton Bag & Cotton Mills, Atlanta, Ga., as director of engineering.

R. C. Kramer has been elected chairman of the board and **William P. Dunn, Jr.**, and **William Golden** have been appointed directors of Julius Kayser & Co., New York, N. Y.

Wilfred Lariviere has resigned as night superintendent of the worsted yarn division of Wanskuck Co., Providence, R. I.

Walter N. Lefler, who has been overseer of carding at the No. 3 plant of Republic Cotton Mills, Great Falls, S. C., has been promoted to waste supervisor of the Carter Fabrics Operating Group at Great Falls.

Walter A. Lennon has become overseer of dyeing at Unionville Spinning Mills, Unionville, Conn.

Donald Letourneau has been named general night superintendent of all departments at Franklin Woolen Mills, Inc., Franklin, Mass.

George M. Lundstrom has been named plant engineer at Berkeley Mills, Inc., Balfour, N. C. **Arthur C. Harmon** has been named personnel superintendent and **Howard A. Mayo**, technical superintendent.

Robert Mann has become overseer of dyeing at Webster Mills of American Woolen Co., Webster, Mass., succeed-

STIRLING MARTIN (left) has been made assistant general manager in charge of sales for the W. Harris Thurston Div. of Reeves Bros., Inc., succeeding Malcolm R. Pitt. JAMES J. SCHWEPPE (right) has been named special assistant to Mr. Martin.

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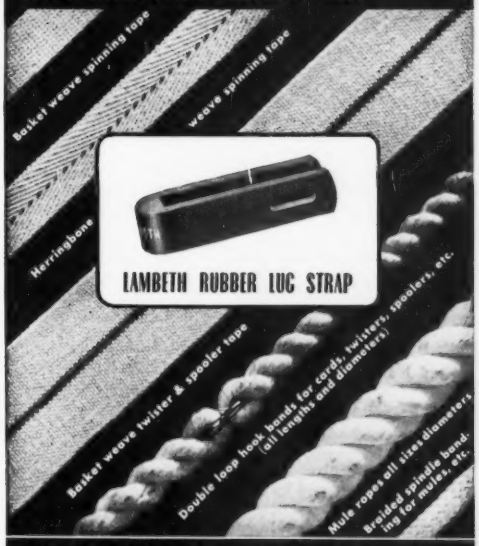
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WAK INDUSTRIES CHARLOTTE, N. C.

News About MEN (Continued)

ing **Sam Braniff**, who has become overseer of dyeing at Packard Mills, Inc., Webster, Mass.

Chester F. McCubbin has resigned as president and manager of Oklahoma Bear Brand Hosiery Co., Oklahoma City, Okla., to establish a wholesale hosiery business under the name of McCubbin Hosiery, Inc.

Charles E. McCullough has become overseer of picking and garnetting at Dudley Woolen Mills Co., Inc., Webster, Mass.

Walter A. Lennon has become superintendent of the four plants of Hatch Full-Fashioned Knit Products Corp., Belmont, N. C.

William H. Mellor, Jr., formerly with Jefferson Woolen Co., has become superintendent of Hayward-Schuster Woolen Mills, Inc., East Douglas, Mass., succeeding **Charles S. Johnson**, who will continue with the mill in an advisory capacity. **Michael Macuga** has become overseer of dyeing, succeeding **Joseph Nedroscik**.

John J. Murphy has become overseer of raw stock and beam dyeing at Fairforest Co., Eagle & Phenix Div., Columbus, Ga.

A. Neel has resigned as dyeing foreman at American Hair & Felt Co., Newark, N. J.

J. W. O'Neal has resigned after many years as general superintendent of all the Pacolet Mills plants in Gainesville, Ga.

Hinton Pierce, formerly in charge of Burlington Mills' order, planning, and billing department, has been appointed superintendent of the company's Greensboro, N. C., hosiery-finishing plant.

Walter Pratt has become superintendent of the Walter Marshall Spinning Corp., Chester, Pa.

Endel Lee Ramey has become vice president in charge of manufacturing at both Inman Mills, Inman, S. C., and Riverdale Mills, Enoree, S. C. **James A. Chapman, Jr.**, former superintendent at Riverdale, has been made manager of Riverdale. **J. C. Boyce** has rejoined the company as superintendent of Riverdale.

Ellie Revollier has become superintendent of American Fabrics Co., Bridgeport, Conn.

Frank Rhyne, formerly of Gastonia, N. C., has been named methods and standards engineer of Oxford, N. C., plant of Burlington Mills.

G. Ross has resigned as superintendent of Phoenix Div., Beaunit Mills, Inc., Statesville, N. C.

Joseph Ryan, former overseer of dyeing at Sawyer Mills of American Woolen Co., Dover, N. H., has joined the firm's Ouncegan Mills, Old Town, Maine.

John A. Salley, overseer of the cloth room of Trion Div. of Riegel Textile Corp., Trion, Ga., for the past four years, has been named assistant superintendent of the gray mill, second shift. **Mark Cooper** has been promoted to overseer of the cloth room. **William E. Ashley**, former second hand in the weave room, is now overseer of Riegel's new warp-yarn mill.

Charles Sandner has become superintendent of the worsted-yarn department of Atlantic Mills, Providence, R. I.

Walter Saturday has been named assistant superintendent at the Tallapoosa Plant of American Thread Co., Tallapossa, Ga. **Frank Jenkins** has been named twister-room overseer, succeeding Mr. Saturday.

C. A. Shibles has been appointed overseer of picking for Baxter Woolen Co., Somersworth, N. H. He was formerly overseer of picking at Sawyer Mills of American Woolen Co., Dover, N. H.

H. L. Talcott has become overseer of finishing at Bridgewater Woolen Co., Bridgewater, Vt.

Clarence Tolg, vice president of Munsingwear, Inc., Minneapolis, Minn., has retired after 35 yr. with the company. He has been vice president since 1942.

William P. Tukey has become manager of the Blackstone and Berkeley Mills of Textron, Inc. **Lyman E. Main** was named superintendent of the Blackstone Mill.

OBITUARY

William Bates, 60, owner of Virginia Towel Mills, Philadelphia, Pa.

J. Bamford Bennett, 71, executive manager of the Pawtuxet Valley Dyeing Corp., Phenix, R. I.

James C. Boles, 64, vice president of National Automotive Fibres, Inc., Detroit, Mich.

Floyd Williams Brownell, 61, area supervisor for E. I. du Pont de Nemours & Co., Inc., Richmond, Va.

Charles Carl Carr, retired director of public relations and advertising for Aluminum Co. of America, Pittsburgh, Pa.

Ernest R. Cartheart, 62, retired plant manager of Fairfield plant of E. I. du Pont de Nemours & Co., Fairfield, Conn.

F. Gordon Cobb, 70, retired textile executive and textile writer. For more than 30 years Mr. Cobb wrote under the by-line of "The Old Timer" for *Textile Industries*.

Thomas Cruthers, vice president of Worthington Corp., Harrison, N. J.

Lammot du Pont, 71, former president of E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

Eliot Farley, 68, director and chairman of the board of Textron, Inc., Providence, R. I.

Claybourne C. Fisher, 58, president of Lowell Weavers, Inc., Lowell, N. C.

C. B. Forney, Sr., secretary and member of the board of Cleveland Mill & Power Co., Inc., Lawndale, N. C.

Walter G. Hamlen, 54, assistant manager of the Philadelphia office of E. I. du Pont de Nemours & Co., Organic Chemical Dept.

David S. Hammond, 60, a director of NoMend Hosiery, Inc., Philadelphia, Pa.

Arthur Y. Harrison, 53, supervisor of the plastic department of the Boston Woven Hose & Rubber Co., Cambridge, Mass.

George Rigby Kay, 55, superintendent of the yarn division of Cherokee Textile Mills, Inc., Knoxville, Tenn.

Walter F. Klemer, 66, former vice president and director of the Faribault Woolen Mills, Inc., Faribault, Minn.

Kemp Plummer Lewis, 71, chairman of the board of Erwin Mills, Inc., Durham, N. C.

William Luther Lewis, 68, president of Chicago Pneumatic Tool Co., New York, N. Y.

Philip Lubin, 66, president of Amity Dyeing & Finishing Co., Brooklyn, N. Y.

H. G. Mayer, 71, representative for Proctor & Schwartz, Inc., of Charlotte, N. C.

Allen L. Mills, 63, secretary-treasurer of Paola Cotton Mills, Statesville, N. C.

William F. Muller, 60, president of Modern Textiles, Inc., Coral Gables, Fla.

W. Lewis Moore, 42, superintendent of the weaving department of Deering, Milliken Mills, Pendleton, S. C.

James R. Morrison, 53, vice president, treasurer, and a director of Morrison Machine Co., Paterson, N. J.

Dennis D. O'Connell, 83, president and treasurer of Sterling Mills, Inc., Worcester, Mass.

William M. Rimmer, retired boss printer at Cranston Print Works, Cranston, R. I.

David A. Rudisill, 74, secretary of Rhyne-Houser Mfg. Co., Cherryville, N. C.

Donald P. Tucker, 46 assistant to the resident treasurer of Cranston Print Works, Cranston, R. I.

Ernest Wynn, 44, overseer of spinning at Blackington Mills, Inc., Conestee, S. C.

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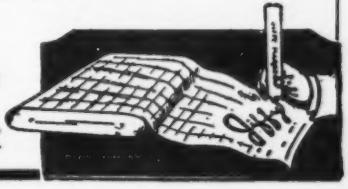

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POSITIONS OPEN

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OVERSEERS FOR FOLLOWING DEPTS.: knit. Tompkins mach.; nar. fabric weav.; woolen pick.; rayon piece goods finish, woolen mule and frame spin.; garnetting; corduroy cutting; knit. glove fingering dept.; cot. card.; fancy cot. weave. large mills; sewing room, cot. fabrics; put up and inspection dept.; cot. piece goods finish.; woolen card.; weav. pile fabrics; win. and wstd. weav.; knit. Leighton mach.; dye. and fin. nar. fabrics; win. finish. (West). Design and manufacture liaison (So.)

SECOND HANDS FOR FOLLOWING DEPTS.: cot. rayon weav.; win. and wstd. finish.; win. card.; wstd. card., comb., twist. and pin drafters; pile fab. weav.; win. napping; package and piece goods dye. (So.); dye. on canvas goods (So.).

CHEMIST with tech. education for asst. supt. tex. mill; maintenance supt.; mech. and plant engineers, designers and draftsmen; asst. plant mgr. wstd. yarn mill; finished cloth examiner; salesmen (several); power supervisors (2); fixers for Brinton and Supreme mach.; salesman Irish linen handkerchiefs (N. Y. City); shear tender and grinder; garnett fixers; section hand French combs; jacquard loom fixer; mule fixer; mechanic-fabric designer, Brinton and Supreme cir. jersey machines.

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For work in the broad field of development of new yarn and fabric structures, utilization of new fibers, and related textile problems.

Requires preferably advanced degree in Engineering or Physics with at least four to five years experience in Textile Research. Excellent opportunity for aggressive and capable qualified person.

Liberal benefits and pleasant working conditions. Please give resume of personal background, education and experience, with salary requirements, in first letter.

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TEXTILE FINISHING Chemist, Central research laboratory of large chemical company located in New York area requires man. PhD. Organic, minimum of three years mill experience in textile resin finishing. Must have supervisory ability and proven interest in research and product development. P-4426, Textile World.

YOUNG TEXTILE School Graduate wanted for production duties in modern Pennsylvania weaving plant. While experience desired condition for employment is ability and ambition. P-5059, Textile World.

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SALESMAN FOR Textile Specialties in North Carolina-South Carolina, and Georgia. For well established company. Give full information. Replies kept confidential. SW-4866, Textile World.

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MILL SUPT. Technician or Gen. Supt. Experience silk, rayon, plain Jacquard, upholstery and throwing. Available. PW-5123, Textile World.

RAYON NYLON Throwster. Thoroughly experienced in production and supervision. Modern and practical methods in all phases of throwing. Capable establishing throwing units and training own help in all throwing departments. Married. References. Employed. PW-5144, Textile World.

TEXTILE ENGINEER & Chemist, 44 years, much experience and knowledge in the preparation, weaving, loom frame regulation, dyeing in all forms, modern procedures, equipment, mercerization, fabrication velvet, etc. Wish employment as technical director in textile industry. Write PW-4998, Textile World.

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American, 15 yrs experience in manufacture of Jute, Hemp, Flax and Sisal yarns, roves and cordage. High production and quality record. Thoroughly versed in cost control, incentives, union contracts, and technical matters. Plain and multi-mill experience. Desires position in tropical or semi-tropical climate. South U. S. or Caribbean Area prefered. Finest references.

PW-5084, Textile World
330 W. 42 St., New York 36, N. Y.

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FIRST CLASS DYER

Must be experienced, with successful background in stock dyeing wool and synthetic fibres. Must have proper educational training in chemistry. Good executive capable of taking full charge dyeing department with successful concern located in Middle West area. This is an unusual opportunity for a top flight man, none others need apply. Excellent dye plant equipment. This position offers top salary to right man. Give full details in application.

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TRICOT MAN now available for Knitting & Warping on Reiner Machines. PW-4949, Textile World.

WANTED: POSITION as Supt. of quality yarn or weave mill. 41 years of age, in excellent health. Twenty years experience as overseer & Supt. Have three T.C.S. diplomas on Textile Mfg. PW-5026, Textile World.

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FRENCH TEXTILE Firm established forty years—Well introduced to spinning mills desires connections with American firms interested buying flax tow yarns linen in France and Belgian bankers; References. Available write Box 9 K Havas Lille.

WANTED MANUFACTURER'S Agent, experienced and well known to add a good account. Georgia, Alabama, and Mississippi territory now covered periodically every 5 weeks, cotton mills only. Commission basis. RA-4929, Textile World.

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Start Venetian Blind Laundry. Profitable lifetime business. Part or full time occupation. New machine. Free booklet. L.N. Co., 101 S. 44th St., Philadelphia 4, Pa.

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(Additional wanted ads on page opposite)

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1 BOIL-OFF Unit, Stainless Steel, 66", M. D.
1 Vertical BRUSH, 4 roll, 58".
1 BRUSH & SANDING Unit, 4 roll, 66".
1 CALENDAR, Hydr., 100 Ton, 3 roll, 72", M. D.
1 COTTAGE STEAMER, 7' x 38" Dia.
1 DECATUR-SEMI, 72" x 36" Dia. Cyl., M. D.
1 DOUBLER, 66", Measuring Clock, M. D.
1 DRYER, Knit Goods, Drum 72" x 108" Dia., M. D.
1 DRYER, LOOP, 84", Fans, Heaters, etc., M. D.
2 DRYERS, Package, 24 tray units, 2400 lbs., M. D.
1 DRYER, SKEIN, Continuous Type with Conditioner Chamber, M. D.
3 DYE KETTLES, S. S., Curved Backs, 92" Long, M. D.
2 DYEING UNITS, PACKAGE, S. S., 200-300 Lbs., M. D.
1 DYEING UNIT, SKEIN, Pegg Pulsator, 500 lbs., M. D.
1 FOLDER, Adjustable 58", Air Lift, M. D.
1 FULLING MILL, 8 String, Rubber Rolls, M. D.
1 INSPECTING UNIT, Uxbridge Model, 72", M. D.
1 JIGG, 80", B. B., Stainless Steel, M. D.
2 KIERS, Top Opening, S. S. Coils, 8x10 and 9x10.
1 MANGLE, 2 Roll, Rubber, 15" Dia., Brass 10" Dia.
1 MERCERIZING UNIT, SKEIN, 16 poles, M. D.
2 MIXING KETTLES, 25" x 27", Pumps and Coils.
1 NAPPER, Knit Goods, 20 Roll, 80", M. D.
1 NAPPER, S. A., 14 Roll, 72", M. D.
1 NAPPER, FELTER, 22 Roll, 80".
2 NAPPERS, D. A., 18 Roll Units, 80"-90", M. D.
1 NAPPER, D. A., 24 Roll, Double Belt Drive, 86", M. D.
1 PALMER-QUETCH Unit, 60", M. D.
1 Rotary Cloth PRESS, 86", Double Bed, M. D.
2 PRINT MACHINES, 7 color, 44" and 3 color 60".
1 PALMER QUETCH UNIT, 68", M. D.
2 QUETCHES, 2 Roll Units, 50", 65", 68", M. D.
1 SCALE, Dial Type, 125 Lb. Capacity, 2 Oz. Graduations.
1 SEWING MACHINE, Rotary Stand, Portable, Merrow 60-D3B Head, M. D.
1 SCOURING RANGE, Raw Stock, 6 Bowl, 48" with Dryer, M. D.
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1 SHEAR, 66½", Model A, 2 Blades, M. D.
1 SHEARING, BRUSHING, STEAMING Range, 66½".
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1 SLASHER, 8 Drum, 32", Size Box, Kettle, Agitator, M. D.
5 Sets SQUEEZE ROLLS, 18" x 18" Dia., Rubber Rolls.
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2 BURR PICKERS, 24"-36", With Fans.
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1 3 Cyl. IRON WOOL CARD, 48" x 60", Dia. Cyls.
80 COTTON CARDS, 40", 27" Doffer, 12" Coiler.
2 Upright RETURN AIR CONDENSERS, 72" x 36" Dia. Cyls.
2 CEILING CONDENSERS, 22" and 18" Dia. Cyls.
2 TAPE CONDENSERS, 60", Single Rub. 96-120 Ends.
1 CARD FEEDER, 60", Hopper, 42" Doff.
5 FEEDS, Scotch Center Draw, 48" Conveyors, etc.
2 GARNETTS, 3 Cyl. Units, 30" x 60", with Hopper Feeds.
90 XD LOOMS, 64", Automatic, 20 Har., M. D.
26 S6 LOOMS, 56", Automatic, 2x1, 20 Har., M. D.
36 VERIBEST LOOMS, 82", Automatic, 4x1, 25 Har., M. D.
8 W3 LOOMS, 92", Automatic, 4x1, 25 Har., M. D.
18 LOOMS, 92", Automatic, 4x1, 21 Har., M. D.
3 SPINNING FRAMES, 100 Spdls. each, 4" Gauge, M. D.
5 SPOOLERS, 43-3/8" Bobbin Stand, Clocks, Detectors, etc.
2 SLUBBERS, 10x5, Long Draft, 80 Spdls. Each.
1 TYING MACHINE, Model K, Portable.
2 WARPERS, 82", Pin Type, Brass Plates, H. D.
1 WARPER, 54", High Speed, 800 End Magazine Creel.
3 WINDERS, Paper Cone, 40-60-100 Spdls., M. D.

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Continuous - Hydraulic

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50—Frames Spinning, 3¼" or 3½" gauge, conventional or Long Draft.

16—10 x 5 Saco Lowell Long Draft Slubbers

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SAMPLE TRICOT MACHINE
2 or 3 bar, preferably a 3 bar, about 30 inches wide.

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WANTED:
Seriplane yarn inspection machine
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W-3139, Textile World
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SCOTT & WILLIAMS Ribbers—All in A-1 Condition—Fully Automatic—Electric Stop Motions.

Machine Width	Quantity 11 Cut	Quantity 12 Cut	No. of Feeds
12"	1	1	8
13"	1	5	8
14"	2	4	8
15"	1	6	8

FS-5199, Textile World
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TEXTILE MACHINERY

including Carding Machines, Spinners, Automatic Looms, Slashers, S/S Dyers, Extractors, Calenders, Clip & Pin Tenters, Dry Cans, Multi-color Presses.

• Will consider operating or idle plant.

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Offered for Immediate Delivery

5—60" Single Bank TAPE CONDENSERS—120 ends—with 36"x60" iron doffers.
5—36"x60" IRON DOFFERS WITH BEARINGS.
10,000—14" G.P. MULE BOBBINS with step base (like new).
Large lot of NEW WORSTED CARD CLOTHING (cad. plated).

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1—Lummus Blending Unit
80—Whitin 40" Cards, 27" doffer
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2—Open Width Greige Washers, 3 compts., 50" & 60" wide
1—R, B & F Hydraulic Mandrel Jack
1—Butterworth Hydraulic Calender 50" 60 ton pressure
1—Nat'l Loop Dryer 44' long x 74" sticks

OPERATING MILLS FOR SALE

CARDED YARN MILL, 10's to 40's—14,000 Spdls.
COTTON SHEETING MILL—20,000 spdls., 400 looms
MODERN JIGG & BOX FINISHING PLANT
DYEING & PRINTING FINISHING PLANT
JACQUARD PLUSH MILL—100 looms

300—Draper XD Looms, 46" & 64", 1946
100—Draper L Looms, 100 reed
100—Gingham Looms, 4 x 1, 40", M.D.
24—C & K S6 Looms, 52" cloth, 1947
18—C & K C4 Looms, 76" cloth, 1945
72—C & K S5 Looms, 52" cloth, 1945
200—Draper E Looms, 40" cloth, M.D.
1—Werner Nylon Pre-Setting Machine. Age 1945
1—Hinnekens Boil-Off Range, 24' long x 66" wide
1—Butterworth Pin Tenter Frame 80' x 90" W/Proctor & Schwartz Housing, 40' long. Age 1948

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40 WORTH STREET NEW YORK CITY
REFINANCING - APPRAISALS - PURCHASE - SALE - LIQUIDATION OF MILL PROPERTIES

FOR SALE!

14—C dega 40", 54", 80" Flat Knitters, Motor Driven
1—Morrison 40' x 60" Tenter, Enclosed Gears, Rebuilt Chain, M. D.
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1—Excellent set of 32 Copper Cans, vertical Dryer 132" wide x 23½" diameter Cans, 3 sectional, ball bearing rotary joints, 3 sets Textile electric cloth guiders, 3 sets of 3 brass Mycock expanders, swing cloth platter, gear and belt drive, like new.

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PROVIDENCE, R. I.

News of the Month

(Continued from page 365)

Rapid Amortization for Nylon Makers. The Defense Production Administration has issued four certificates of necessity for rapid amortization of nylon-producing facilities. These certificates provide for the completion of DPA's previously announced expansion goal for non-cellulosic synthetic fibers. Approvals were for three Du Pont plants—one at Chattanooga, Tenn., for $22,426,000 (40% allowance, 40,000,000-lb. expansion); one at Seaford, Del., for $6,453,000 (40% allowance, 16,800,000-lb. expansion); and one at Martinsville, Va., for $13,764,000 (40% allowance, 24,880,000-lb. expansion)—and one for Allied Chemical & Dye Corp. in a location not yet selected for $23,165,000 (40% allowance, 20,000,000 lb.).

At the same time DPA also denied seven applications for certificates for facilities to produce non-cellulosic fibers other than nylon, 10 applications for certificates for facilities to produce high-tenacity rayon, 10 applications for certificates for facilities to produce other than high-tenacity rayon, one application for extension of a certificate for a facility to produce high-tenacity rayon already issued but expired; and affirmed a previous denial of one application for a certificate for a facility to produce high-tenacity rayon.

These actions complete DPA's operations in connection with tax amortization for these products since the above approvals provide for completion of the recently set expansion goal of 300,000,000 lb. of non-cellulosic fibers by 1956. No expansion goals have been set for high-tenacity rayon or for other rayon products.

1953 Textile Institute Conference. The Textile Institute's annual conference in 1953 is to be held at Llandudno, North Wales, during Whit Week, May 25th to 30th. As this is the week before the coronation of Queen Elizabeth II, the Textile Institute is giving as much advance notice as possible of its plans so that overseas members can make early arrangements regarding travel.

The purpose of the 1953 conference is to consider and discuss the design and testing, for special purposes, of fibers, yarns, and fabrics.

Wool Bureau Concurs. There is room in this great and constantly expanding American market of ours for all fibers and all blends of fibers to meet the increasing needs of our rapidly growing population with its rising

(Continued on page 388)

18—1948 FLETCHER TWISTERS

Double Deck, Double Motor, 200 Spindles

2 Model 76 FOSTER SIZEING MACHINES

Each Machine 25 Spindles—Excellent Condition

1 H & W CONDITIONER

Inside Dimensions: Depth 36"—Width 53"—Height 60"

SPOOLS

20,000—3" Fibre head—4" traverse—1⅜" barrel
50,000—3" Fibre head—3½" traverse—1½" barrel
130,000—2½" Fibre head—3½" traverse—1¼" barrel
150,000—3⅛" Stainless steel—Hollow gudgeon—3¼" traverse 1⅜" barrel

SPOOLS

19 ATWOOD-MONARCH SPINNERS individually motorized, 104 spindles, 4¼" spacing

48 ATWOOD SINGLE DECK SPINNERS 100 spindles, 4¼" spacing

13 ATWOOD D. DECK SPINNERS 194 spindles, 4¼" spacing

5 SCRANTON REELS — 6 SKEINS EACH 12 SKEINS TO EACH FLY

17 ATWOOD REDRAW MACHINES—overall bobbin length 4½" standard spacing, 70 spindles

many miscellaneous items such as winders, bobbin racks, extractors, slate tubs, humidifiers, lift trucks, gas boiler, and many other items too numerous to mention.

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2 WORSTED CARDS

2 Cylinder—Davis & Furber
54" Diameter x 54" Face
With Bramwell Picker Feed
Balling Head Delivery

Item SM-SDM

SMITH DRUM SKEIN DYE MACHINE

with
Monel Metal Take and Detachable Separator
Hydraulically Operated Glass Sticks
15 Arm
Rated Capacity
5 lbs. Filament Rayon Per Stick
Complete with
Hydraulic Accumulator Pump and Tank
Includes 3 HP Motor for Operating Machine and ½ HP Motor for Hydraulic Pump

Item L-WQ

Whitin Quiller—Model J

304 Spindle
3½" Gauge—10½" Traverse

Item E-FWB

25,000 Used Wood Cheeses

8" x 1½"
for 102 Foster Winders

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1—P.&S. 60" Card Feed (Mod. 535—Practically New)
1—Sargent 42" Picker Feed
1—Hunter 7 section Raw Stock Dryer
1—D. & F. 7' all iron Cone Duster
1—Schofield 48" automatic Duster (box)
1—Woonsocket 36' x 36" ceiling condenser & blower
2—18" x 18" P. & S. Ceiling Condensers
1—"Parkhurst" 48" Burr Picker with Feed
1—Sargent 36" Duplex Burr Picker
1—Schofield 18" x 40" Rag Picker
3—Dodge, Schofield 18" Waste Pickers
1—Card Floor Grinder 60"
2—40" Stock Blowers, B.B.
2—Opening Pickers, 40"
2—Gerry 30" Lumpers

WARPING AND WEAVING

4—D. & F. or Altemus Warpers—rebuilt to order—82"—120", Pin or Pinless
1—Globe Ball Warper & Creels
5—Draper 54" Mod. G Warpers
22—Tonner, C. & K., Plush Looms
12—C. & K. W-1 76", 4x1 Looms
4—C. & K. 92" 4x1 automatic Looms
4—C. & K. 82" 4x1 automatic Looms
36—C. & K. 82" (4x4) Box Looms
2—L. & G. Chenile Cutters

WINDING

UNIVERSAL #50 & #90 WINDERS REBUILT TO ORDER

3—Foster Mod. 75 Cone Winders (like new)
1—Foster, Mod. 101, 100 sp. Cone Winder
4—Foster Mod. 12, Skein to Cone or Tube Winders
2—J. & B. Jackwinders, 80 sp. & 120 sp.
10—Lindsay Hyde Adjustable Skein Reels
2—Fidelity Skein Reelers
1—Whitin Quiller 2½" Gauge (long chain)
1—P.S. 132 sp. Twister 4" Ring, band dr.
1—Lazenby 15 sp. Cop Winder
3—Sargent 16 sp. Balling Machine, 1948

FINISHING

1—Gessner Mod. 20 Press, 1950
1—Hunter 26B Fulling Mill
1—Hunter Squeeze Set, 96", hydraulic
2—Birch Bros. & Tack. Mach. (92")
1—Roy 96" Napper Grinder
1—P. & W. 66" 4 cyl. Brush & Sander
2—Teasle Gig's, double cylinder (60")
1—Yorkshire Crab 72"—3 bowl
1—Butterworth 80", 3 bowl Washer
1—S/S Lined 60" Wetting-out Tank with squeeze rolls (Pneumatic Pressure)
2—P. & W. 66" Mod. A. Double Shears
2—Voelker 65½" D. B. Presses
1—Set Dry Cans (4) 27" Copper
6—Dry Cans Copper, 70" x 26"
3—72-82" Cloth Inspecting & Rolling Machines
1—Cloth Measuring & Rolling Machine 80"
1—P. & S. 2 Truck Skein Dryer

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COMPLETE PLANT—PLASTIC SEAT COVERS C & K AUTO. LOOMS 82"

300 Auto Drapers 43" to 76" cloth
16 C & K Auto Bob Changers 2 x 1 - 72" R.S.
140 S-3 C & K 52" R.S. shuttle changers
12 C & K 4 x 4 - 54" R.S.
40 C & K Woolen looms 72" to 110" R.S.
404 Draper Model L 100" R.F. Sheeting Looms.
24 Draper Model L 83½" R.F. Sheeting Looms.

Sipp Hyspeed Warper

DYEING MACHINERY

1 Cottage Steamer 24' x 10'
1 2 Roll 60" Quetch
1 S.S. open width washer with squeeze rolls
1 Ager 60" 48 rolls 20' long
1 48" self balancing Extractor
1 set of 9-68" Copper Cans
1 Set of 5-66" Copper Cans 30" diam.
1 New 80½" Beamer
14 S. S. Cans 48"
1 80" wide Pin Tenter Frame
1 40" Hinnikens 60" frame with gas Burners, reeves & motor
1 60" Hinnikens Jiggs all stainless steel
1 Paterson Examiner, 72" wide
1 72" Park Woolson Decater
1 Set 18 Dry Cans 48" face; 5 stainless steel, 13 iron tinned with reeves
8 Dye Boxes S.S. lined 8'—10'—12'
1 Jostrom fabric conditioner 64"
1 19 can Butterworth dryer 72"
1 Textile Tenter Frame 52" wide 40' long
4 Three (3) Roll Padders 45"
30 50" Dry Cans
5 Atwood 5B Twisters
9 Atwood Single Deck Utility Spinners
8 Sipp Warpers & Winders
20 ±90 Universals
4 Oswald-Grundy 46—Spindle Cop Winders
5 Foster-Coners 75A
3 Johnson Slashers 7 Can & 3 Can—66" & 5 Can
1 Set 17 Can Butterworth 132" S.S. B.B. Motor & Reeves Drive
1 72" Greige Washer with Squeeze Rolls 24' long

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REBUILT GUARANTEED
Coners, tubers, pineapple coners built to your specifications.
ALSO
Universal #90's
5 Ruf Balling Machines
1—40 Spindle Foster #12, skein in tube
1—40 Spindle Atwood 5B-Vertical motor
2—16 Spindle Sargeant Balling Machines—motorized
GAINES TEXTILE MACHINERY CO., INC.
141 West 17th St. New York, N. Y.

"CONSOLIDATED" OFFERS

5—Whitin 48" Roller Cards, 12" coils
1—Nylon Setting Machine, 72" Drums.
1—Tolhurst 48" Stainless Steel Extractor
1—Hunter Multi-Pass Pin Tenter Dryer.
1—2-steel Cyl. Gum Back Machine, B.B.
1—Wool Washer with Hunter squeeze rolls
2—P&S & Hunter 62"-48" Stock Feeders.
1—Complete Warping Unit: Entwistle High Speed Warper, Cocker Magazine Creel, Heavy Beamer and Compressor.
We Buy From Single Items To Complete Plants.
OUR 35th YEAR
CONSOLIDATED PRODUCTS CO. INC.
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FOR SALE

30—Tinned steel dry cans 23" dia x 120" face bucket type gear driven friction bearings upright or horizontal frames.
20—Copper dry cans 23" dia x 44" face bucket type gear driven friction bearings upright or horizontal frames.
15—Copper dry cans 23" dia x 100" face steel heads gear driven.
5—7' slashers 58" face bucket type.
5—5' slashers 58" face bucket type.
2—5' slashers 38" face bucket type.
We can supply one dry can or as many as your needs may be. We fabricate new copper or stainless steel dry cans any width. Dry can machines built to your specifications.

Write • phone • wire
296 Lincoln Ave.
EASTERN TEXTILE CO.
New and Used Finishing Machinery
Specializing in Dry Can Machinery
Tel. 33228
Fall River, Mass.

(Continued from page 386)

standards of living, F. Eugene Ackerman, president of the Wool Bureau, Inc., New York, concluded in a recent apparel-group forum at Chicago, Ill. "Our great task, whether we are proponents of wool or of the synthetic fibers, is to expend our energies in learning how best to employ all fibers alone or in combination, and in studying how to expand our great textile potential markets—not in fighting a civil war in the fiber world."

The Wool Bureau head had previously pointed out some as yet unsolved drawbacks of some synthetic fibers as used in apparel fabrics. He emphasized that wool lacks these serious defects. True, the new fibers have qualities which wool does not have, he said, but there is no fiber existing which has all the "plus" values of wool. He did not on the other hand suggest that wool is an "all-purpose" fiber, saying that no such natural or man made fiber exists, and probably never will exist.

Static-Electricity Advisory Committee. A seven-man advisory committee on static electricity of the New York section of the AATCC, in full agreement that the problem of static in the newer synthetic fibers must be met quickly and efficiently, is preparing for its first formal meeting this fall.

Formed to "recommend fields of research related to static electricity for study by the national AATCC as well as for a paper on static to be presented in the society's annual intersectional competition," the group met informally earlier in the summer. Immediately after the session, committee members were requested by Chairman Sidney M. Edelstein, Dexter Chemical Corp., to submit suggestions "as to methods or points of attack on the static problem" to be used as material for discussion at the September meeting.

Both the Du Pont company and Carbide & Carbon Chemical Co. are seeking chemical means to meet the problem of static in the processing and use of the synthetic fibers. It is necessary to find a finish that not only eliminates or minimizes static but enables the user to wash or dry clean garments without removing an antistatic finish.

The group also discussed the lack of instrumentation that is holding back research into the problem and the unreliability of the method of testing for static with present equipment.

Du Pont Sesquicentennial. In July E. I. du Pont de Nemours and Co.,

(Continued on page 390)

FOR SALE

PARTIAL LIST OF MACHINERY & SUPPLIES WE HAVE IN OUR WAREHOUSE STOCK FOR IMMEDIATE DELIVERY

120—Draper 64" XD automatic bobbin changing motorized looms, fully equipped, 20 harness dobby, 440 volt motor, practically new.

48—C & K, S-5 56" 2 x 1 automatic bobbin changing motorized looms. 20 harness dobby, 220 volt motor, practically new.

24—C & K, S-5, 56" 2 x 1 looms complete with 220 volt motors.

24—Draper XK 44" motorized looms, 220 volt motor complete with dobbies.

144—Spindles Whitin-Schweiter automatic quill winder complete, new 1947.

1—83" Sipp type DY 8 yard Warper complete, 220 volt motor.

14—Complete units Simco static eliminator 110 volt, 60 cycle, midget power unit with plug-in cord, static bars 55", supporting brackets and necessary high tension cables, insulating supports for guiding cable, ground wire and mazda lamps.

96—C & K, 2 x 1, Super silk automatic bobbin changing motorized looms complete, 220 volt motors.

150—C & K, S-3 automatic shuttle changing 38" motorized looms, 220 volt motors, large shuttle boxes, will take 8-¼" quills, excellent condition, exceptionally good buy.

88—Atwood Monarch type double deck Spinners complete with motors and drives.

32—Atwood double deck Spinners ½ lb. package—200 sp. each.

6—Fletcher 12-fly late type Reelers complete with motor and drive, 550 volt motors.

5 and 7 can Slashers, both silk and cotton system, 60 and 66" complete, equipped with 220 volt motors, will recondition and guarantee.

1 lot of ±90 quill winders will recondition to suit your needs.

1 lot of Universal ±50 cone winders, will recondition to suit your needs.

Large assortment of 8 yard Sipp, both silk and cotton system warpers.

Several Sipp Eastwood magazine cone creels, late type tensions and electrical knock off.

2 Allen 54" late type Sipp Direct warper, will take a 30" beam head.

Large assortment of C & K, 4 x 4, 56" to 72" motorized looms with large boxes, complete.

Large assortment of stainless steel reeds.

Large assortment of C & K loom parts, XA Rhode Island electrical warp stop motion, drop wires, pick clocks, quills, shuttles, temples, feelers, etc.

1—Proctor & Schwartz Automatic boading, drying & stripping machine for Ladies Hosiery—2 operator, high speed type, Model "D", 1947.
30 leg boads—5 sets toes
Top stripper
V Belt Drive
1½ HP motor

SHAFFER & MAX INC.

33-37 N.Third St., Tel: 4-9434 Allentown Pa.

WANTED

Qty. Forster Wood Cones 8" x 2½"
Lot Spang. caps, tubes, spnds, bobb.
(Suitable for making 3 oz. pkg.)

BOBBINS FOR SALE

300M A. L. Fill. 8-¾" (LIKE NEW) WOOL
2M 9½ x 5 Fib. Hd. Wor. Bob.
600 9 x 14 Dr. Bob. Heavy
19,958 3½ x 2⅝ Fib. Hd. Spools
1M 12 x 6 Wor. Bob.
500 St. Hed. Frms. for 46 x 13 Hed. Artex
200 Nar. Fab. Pick gears, 67 to 190 tooth
1 Mag. Creel Univ. 300 Live-ends
1M-SEAMLESS 12 x 36 Rov. CANS.
1M Rov. Cans 12 x 36
500 Rov. Cans 10 x 36
3M Can Springs for 12" Cans.

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Draper "XD", 46"; Abbott Auto Quill Winders, with pinboard device; Atwood Utility Uptwisters; Atwood Redraws; H & W Conditioner; Johnson Slashers (60x30, 60x23); H & W Conditioner; Proctor & Schwartz Drier; Johnson 3-Arm Soaking; Warpers and Creels; Knotters; Bobbin Strippers; Shearer.

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REBUILT MACHINERY FOR IMMEDIATE DELIVERY

1—72" Parks & Woolson Decatizer, Pump & Motor.
1—Butterworth Clip Tenter 40' x 72", Stainless Clips, Reeves & Motor.
1—Hinnekens, 60" Variable Speed Examining & Tubing Machine.
1—Elliott & Hall 54" and 60" Flat Folders.
2—W.J. Tenter Frames, 30' x 54"
1—W.J. Tenter Frame, 30' x 86"
1—3 roll silk or rayon Calender, M. D.
1—42" Self Balancing Extractor, M. D.
2—150 gal. Jacketed Kettles with agitators.
1—Set of 21-72" x 23" Dry Cans Horizontally.
1—72" Hydraulic Padder, M. D.
1—Set of 9—20" x 60" Heavy Steel Dry Cans.
1—50" V. V. Button Breaker.
1—60" Verduin Hydraulic Padder.
1—44" Van Vlaanderen motor driven Tuber.
1—60" Verduin 40 ton Hydraulic Calender.
2—60" motor driven Beamers.
4—Hermas measuring & inspecting machines, tube to tube.
1—60" Measuring, Inspecting & Tubing Machine, tube to tube, new, variable speed, forward, neutral & reverse.
30-60 gallon copper steam jacketed Kettles.
1—Hinnekens Boil-off Machine.
1—Sterling 7½ H. P. Vari-drive.
1—Reeves 7½ H. P. Vari-drive.
About 5,000 S. S. high speed V. V. Clips.
Agitators of various sizes.
Motors of various sizes.
New & Used Electric Hoists.

8—60" Verduin, Stainless Steel, Motor Driven Jiggs
2-3 ft. 2-8' 1-10' 1-14' Stainless Steel Lined Dye Boxes
New Copper Rollers 16" x 60" wide, W Bore

SHerwood 2-7666 — SHerwood 2-7667
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DOMESTIC — EXPORT
TEXTILE MACHINERY
523-525 E. 18th ST. PATERSON 4, N. J.

EXCELLENT FINISHING MACHINERY FOR SALE AT LOW PRICES

1—90" x 60" wide Textile Tenter & Chain.
1—50 Cylinder Copper Dryer 113" face.
1—6-Roll Calender 44" face complete with 20HP motor and controls.
10—Johnson & Bassett Pantographs, complete with diamonds.
1—44" 2-Roll Padder with stainless steel pan.
1—Complete Franklin package Dyeing Plant. Monel Metal Tanks.
1—65" Palmer machine complete with motor, gear box, blanket, etc.
1—120" Hydraulic Padder.
1—5-Ton cab Crane 28' Span hoist and travel motors & controls.
1—80" Hydraulic Padder.
1—72" 2-Drum Batchers steel drums with scrimp tensions and measuring drum etc. Selvage spool winders & Bobbin Strippers for Lace Trade.

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100 No. 50 UNIVERSAL CONERS — "L" DRIVE, S. S. EMULSION ROLLS & TROUGHS, GEAR GAIN
Tube + 3° 30' Cone Attachments, Anti-Wear Tensions, Motorized
35 NO. 75 FOSTER CONERS — S. S. EMULSION TROUGHS & ROLLS—3°30' TAPER
20 ATWOOD 110 UPTWISTERS — ." & 0" GAUGE 1 LB. CAPACITY SPOOLING AVAILABLE
5 SIPP WINDERS — D.D. OIL-LESS BEARINGS, FINGERS WILL ACCOMMODATE 2" DIA. HDS. 140 SPINDLES
10M SPINNER SPOOLS FOR NYLON — 5" V. x 3¼" x ⅛" Thick Fibre, Aluminum Barrel, s.s. Ferrule.
100 M. FIBRE HEAD SPOOLS 4-9/16"T x 3"H x 1½" Bbl.
200 M. FIBRE HEAD SPOOLS 3⅜"T x 3"H x 1⅜" Bbl.
1—SARGENT SKEIN DRYER—62 POLES—496 LB. CAPACITY

PENNSYLVANIA SPOOL & EQUIPMENT CO.
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TRADE WITH BAUER
BUY - SELL - TRADE your
COMPRESSOR VACUUM PUMP STEAM BOOSTER
L.W.BAUER

(Continued from page 388)

Inc., celebrated the 150th anniversary of the founding of the company on the banks of Brandywine Creek, near Wilmington, Del.

Over 7,000 invited guests attended the ceremonies, which included a play in which Sigrid Gurie and Edward Franz enacted a short historical skit that showed Irenée du Pont and his wife in 1802 during the building of the first powder mill.

Crawford H. Greenewalt, company president, spoke of the firm's progress through the years and expressed confidence in the future, despite governmental restrictions that now limit man's ability to profit from his own enterprise. He reflected that the Du Ponts of 1802 would have had little incentive to build and invest for the future if they had had today's tax-gatherers looking over their shoulders.

LTI Engineering Department Recognized. Lowell Textile Institute, Lowell, Mass., has become an active member of the engineering-college council of the American Society for Engineering Education. Membership on an active status in the engineering-college research council entails participation in a continuous program for the development and expansion of research facilities in colleges and universities accredited by the Engineers' Council for Professional Development.

As a member of the council, the Institute will conduct original investigations toward the discovery of new processes, devices, and materials in the interest of the engineering profession, industry, and the ultimate public welfare. The Institute will also cooperate with other institutions of higher learning, with associations, and with governmental agencies, in a program designed for engineering advancement and economic adjustment and improvement in the textile and other industries, public works, public health, and the development of natural resources.

Chlorophylled Textiles Next? Research into the possibility of adding chlorophyll to textile yarns and fabrics in a permanent form has been reported from a Canadian plant of Aberfoyle Mfg. Co., Philadelphia, Pa. The great difficulty to date has been the non-permanency of the application under continued washing or dry cleaning.

The company is expected to offer its services to other mills in the application of chlorophyll if and when the problem is solved. Synthetic fibers as well as cottons are expected to be successfully treated. An increase in ease of yarn processing as well as deodorant characteristics is foreseen by some observers.

PRIVATE LIQUIDATION SALE

Machinery, Equipment, Supplies, etc.

of the DUNDEE FINISHING COMPANY 35-8th St., Passaic, N. J.

All Equipment available for immediate removal

Partial Listing

21—50"-66" all s.s. Dye Jiggs, enclosed gears, ind. motors.
7—2'-12" all s.s. Dye Becks, ind. motors and reducers.
1—Perkins 80 ton Hydraulic Calender, 53" 3-rolls, motor.
1—V.V. Palmer-Tenter-Quetch Unit, 60" enclosed frame.
1—V.V. 40' x 60" Tenter Frame, enclosed gears, s.s. clips, motor and Reeves.
2—Sets S.S. Dry Cans, 23" x 56" & 72" widths, ball bearing, motors.
2—Sets Copper Dry Cans, 23" x 66", ball bearing.
1—Butterworth 60" Hydraulic Padder, 2 rubber rolls, 20" dia. vari-speed drive.
1—48" Extractor, s.s. basket, side motor.
1—50" Silk Calender, 3 rolls, motor.
1—66" V.V. Palmer-Quetch Unit, motorized.
3—50"-72" Beamers with Morrow Sewing machine heads on tracks.
1—National Loop Dryer, 82" revolving sticks.
1—Werner 50" Padder, 2 rubber rolls, s.s. pan, motorized.
2—Copper—jkid, mixing Kettles, 150 and 200 gals., agitators, motors.
2—Nash Vacuum Units with s.s. tubes.

ALSO: Padders, Kettles, Hoists, Tubers, Office Equipment, Chemicals, etc.

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FOR SALE

WINDER

Latest type Sipp-Eastwood, 70 Spindle Type D. H. Winder, purchased new two years ago. Winds a 6" cone spool holding one full pound of yarn. Complete with motor drive, Swifts, Spindleless attachments, and 10 Spindles arranged for re-drawing or winding.

1500 L. C. Smith fibre head spools for above winder, 4½" large head, 3⅛" small head, 1⅛" barrel, 19/64" bore. Three 196 Spool capacity cadmium plated Johnson Engineering Trucks to hold above spools.

All of the above items in excellent, like new condition.

Available for immediate delivery and will sell only all items as one pkge. Located in Paterson, N. J. Inspection by appointment.

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IMMEDIATE DELIVERY

1—72" Park Woolson Semi-Decater M. D.
1—50" General 2 Drum Decater M. D.
1—3-roll 50" V. V. Calender M. D.
10—Textile Squeeze Sets, two rubber rolls each, 96" anti friction bearings
1—80" x 50' W. & J. Tenter Frame S. S. Clips M. D.
1—64" x 40' W. & J. Tenter Frame S. S. Clips M. D.
1—60" x 40' Morrison Tenter Frame S. S. Clips M. D.
1—60" x 20' W. & J. Tenter Frame S. S. Clips M. D.
1 Set 15 Dry Cans 72"—6—S.S.—9 Copper M. D.
1—Set 8 Copper Dry Cans 84" M. D.
1—4' & 1—6' Dye Beck, S. S. Box & Reel M. D.
2—60" Jiggs S. S. Lined M. D.
1—76" Beamer, with enclosed B. B. Reeves M. D. Reverse Switch
1—Merrow Sewing Machine 60-3D. B with table and motor
1—Set Mt. Hope Guiders on 60" stand
1—50" Padder, 2 Roll $400.00
1—48" Button Breaker V. V. M. D.
1—48" Hermes Inspection & Meas. Machine $175.00 M. D.

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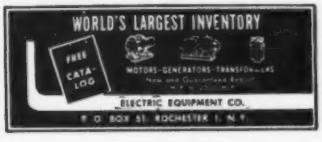

FOR SALE

1—100 Spindle Abbott Quiller, Ser. No. 261, 1948 Model, Guide Bar for Filament or Spun Yarn, New Boarding Device.
2—1948 Model Cocker Slashers, 9 can, 60" x 36" Stainless Steel, Double Size Boxes, Foxboro Controls, Latest Type Frictions, 16 Beam Creels, Slasher Front will take 40" to 72" Loom Beams with 32" beam Heads.
1—Spindle Driven Cocker Warper with Reeves Variable Speed Drive, 624 Live End Mag. Creel, Cocker Stop Motion.
1—Spindle Driven Cocker Warper with Allis-Chalmers Adj. Speed Controlled Unit, 624 Live End Mag. Speed & Cocker Stop Motion.

All-Fiber Textile Machinery Co.
P. O. Box 184 Belmont, N. C.
Gastonia 5-5479

Campaign Headquarters U.S.A.

Junior is putting on his GI uniform for the veterans' parade to remind everyone to register so they can vote Nov. 4.
Sis is boning up to write her entry in the Citizenship Essay Contest the businessmen's association is sponsoring at school.
Dad's easy chair is empty —he's at the meeting of the citizens' get-out-the-vote committee.
Mother's helping her club make a telephone campaign telling everyone when and where to register.
Grandma's sending registration reminders to all the church members. Even little Sis is helping—rubber-stamping messages on the cards.

The Family Vote will elect the Next President

NOT THE FARM VOTE...
THE BIG-CITY VOTE...
THE LABOR VOTE...
OR ANY PARTY VOTE...

Politicians talk a lot about this and that "bloc" of voters being decisive factors in this election. So do all the pollsters. You can't blame them for trying to dope it out that way in advance . . . but . . .

YOU know you're going to vote your own sweet way when you get behind that voting booth curtain—that where you live or work hasn't got a blankety-bloc thing to do with how you'll vote. You'll vote for what you believe to be in the best interests of your family—your kids—and your kids' kids.

So YOU know that this year—as always—it will be the FAMILY vote that really decides things. And families are working as never before to make sure every American votes. Right now in millions of American families, everyone from Little Sis to Grandma is pitching in to remind every eligible American to register to make sure of the opportunity to vote. And then they'll tackle the job of getting out the vote of every member of America's 44,000,000 families. They're the biggest "bloc" in America—they ARE America!

If your family is already working at the job—congratulations! If you aren't, talk it over at supper tonight, and pitch in tomorrow.

Index to ADVERTISERS Keyed by PRODUCT

A HELP TO YOU. The reader will find that this unique TEXTILE WORLD index, particularly if consulted for two or more consecutive issues, affords a surprisingly complete source of information on the latest products and services available to the textile industry. Its comprehensiveness is the result of the fact that TEXTILE WORLD, having the largest circulation and highest readership of any textile-mill magazine in the world, carries the largest volume of advertising.

HOW TO USE. First, look in the table below and find the letter that designates the class of supply or service that you currently need. Then consult in the index the page numbers that are followed by that letter.

A. Air Conditioning, Air Cleaning
B. Building Construction and Maintenance, Paints, Yard Equipment, Water Supply
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G. Fibers, Yarns, Mills, Finishing Companies
H. Fluid Handling.—Compressors, Pumps, Piping, Valves, Fittings
K. Instruments: Measuring, Metering, and Weighing Apparatus
L. Knitting-Mill Equipment and Supplies
M. Lubricants and Lubrication Equipment
N. Management Services—Factors, Consulting Engineers, Insurance, Personnel Facilities, Plant Sites, Etc.
O. Materials and components for Machinery and Equipment
P. Materials Handling, Packaging, and Shipping Facilities
Q. Power Generation and Transmission (see also Electrical Equipment)
R. Weaving and Warp Preparation Equipment and Supplies
T. Yarn-Production Winding, and Twisting Equipment and Supplies

An * indicates additional data in the 1951-52 Pre-Filed Textile Catalog. This index is published as a convenience to the reader. Great care is taken to make it accurate, but Textile World assumes no responsibility for errors or omissions.

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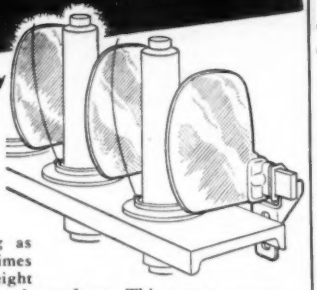

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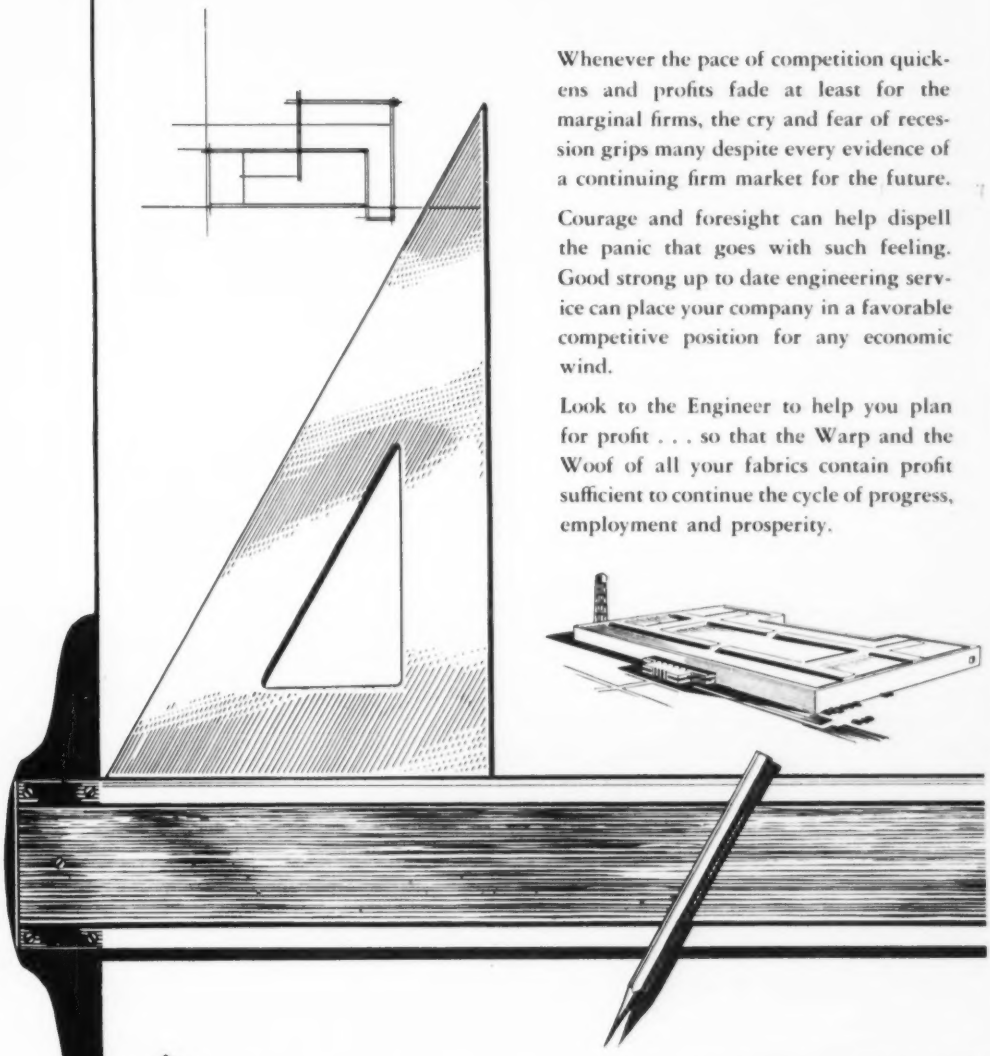

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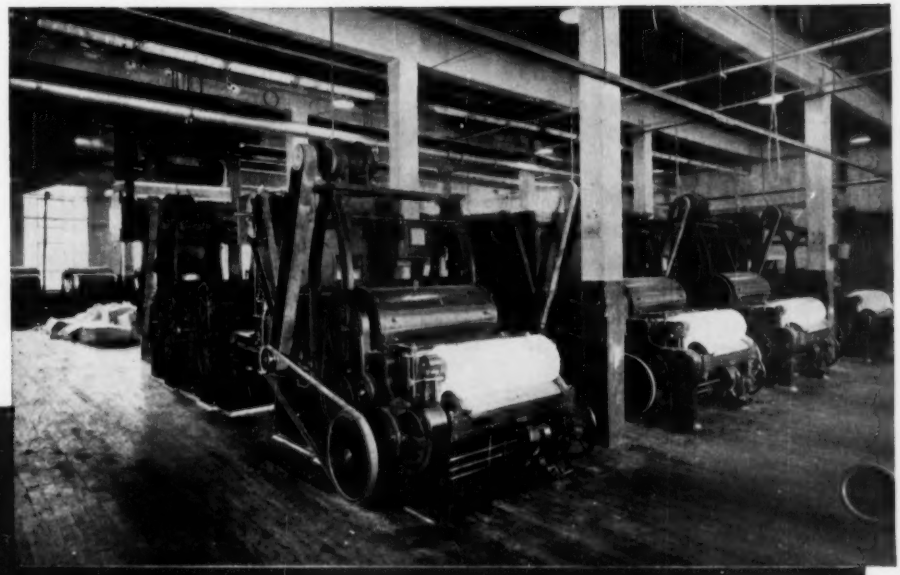

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You can step up the quality of your yarn and raise production efficiency when you condition fibres with *Texaco Texspray Compound*. That's been proved by more than 15 years' experience in leading mills.

Texaco Texspray Compound softens brittle fibres, prevents breakage of long staple, helps maintain a uniform yarn count. You'll get stronger yarn, have fewer ends down. *Texaco Texspray Compound* also minimizes static, reduces "eyebrows." It's easy to apply, economical to use.

To get longer life from your grease-lubricated anti-friction bearings, and reduce maintenance costs, use *Texaco Regal Starfak*. It's definitely superior to ordinary grease in resistance to oxidation, gum formation, separation and leakage. Lasts longer, too.

Let a Texaco Lubrication Engineer show you how Texaco Lubricants can increase efficiency and reduce costs all through your mill. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

The Texas Company, 135 East 42nd Street, New York 17, New York.

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